IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Baltimore, et al.

Serial No: To be assigned

Filed: January 4, 2002

For: Nuclear Factors Associated with Transcriptional Regulation

Attorney Docket No. APBI-P05-035

Art Unit: To be assigned

Examiner: To be assigned

Assistant Commissioner for Patents
U.S. Patent and Trademark Office
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Please enter the following amendment:

In the specification:

Please replace the only complete paragraph under the heading Related Applications on page 1 with the following text:

This application is a continuation of Serial No. 08/464,364, filed June 5, 1995, which is a divisional of Serial No. 08/418,266, filed April 6, 1995, which is a continuation of 07/791,898, filed November 13, 1991, which is a continuation-in-part of application of Serial No. 06/946,365 (WHI86-10), filed December 24, 1986, and of Serial No. 07/318,901 (WHI87-11A), filed March 3, 1989, and of Serial No. 07/162,680 (WHI87-11), filed March 1, 1988, and of Serial No. 07/341,436 (WHI89-02) filed April 21, 1989, and of Serial No. 06/817/441 (MIT-4167), filed January 9, 1986, and of Serial No. 07/155,207 (MIT-4167A), filed February 12, 1988, and of Serial No. 07/280,173 (MIT-4167AA), filed December 5, 1988. The contents of the ten referenced applications are incorporated herein by reference.

The replacement paragraph presented above incorporates changes as indicated by the marked-up version below.

This application is a continuation of Serial No. 08/464,364, filed June 5, 1995, which is a divisional of Serial No. 08/418,266, filed April 6, 1995, which is a continuation of 07/791,898, filed November 13, 1991, which is a continuation-in-part of application of Serial No. 06/946,365 (WHI86-10), filed December 24, 1986~~;~~, and of Serial No. 07/318,901 (WHI87-11A), filed March 3, 1989~~;~~, and of Serial No. 07/162,680 (WHI87-11), filed March 1, 1988~~;~~, and of Serial No. 07/341,436 (WHI89-02) filed April 21, 1989~~;~~, and of Serial No. 06/817/441 (MIT-4167), filed January 9, 1986~~;~~, and of Serial No. 07/155,207 (MIT-4167A), filed February 12, 1988, and of Serial No. 07/280,173 (MIT-4167AA), filed December 5, 1988. The contents of the ~~seven~~ ten referenced applications are incorporated herein by reference.

Although Applicant believes no fees are needed in connection with filing this Preliminary Amendment, should fees be due in connection with the filing of this Amendment, please charge the fees to our **Deposit Account No. 18-1945.** If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit account.

Respectfully Submitted,

Date: January 4, 2002

Matthew P. Vincent
Reg. No. 36,709

Customer No: 28120
Docketing Specialist
Ropes & Gray
One International Place
Boston, MA 02110
Phone: 617-951-7739
Fax: 617-951-7050

TRANSMITTAL OF FORMAL DRAWINGS	Docket No APBI-P05-035

In Re Application Of: **Baltimore, et al.**

Serial No.	Filing Date	Batch No.	Examiner	Art Unit
To be assigned	**Herewith**	**To be assigned**	**To be assigned**	**To be assigned**

Invention:

Nuclear Factors Associated with Transcriptional Regulation

Address to:
Assistant Commissioner for Patents
Washington, D.C. 20231

Transmitted herewith are:

58 sheets of formal drawing(s) for this application.

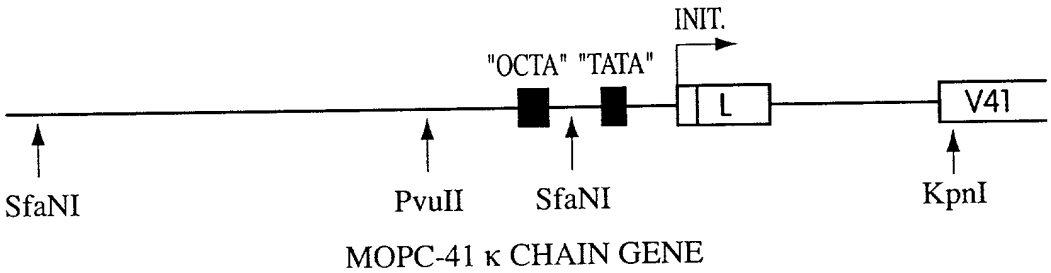
Each sheet of drawing indicates the identifying indicia suggested in 37 CFR Section 1.84(c) on the reverse side of the drawing.

Signature

Dated: **January 4, 2002**

Matthew P. Vincent
Registration No. 36,709
Ropes & Gray
Patent Group
One International Place
Boston, MA 02110

Customer ID 28120



MOPC-41 κ CHAIN GENE

Fig. 1A

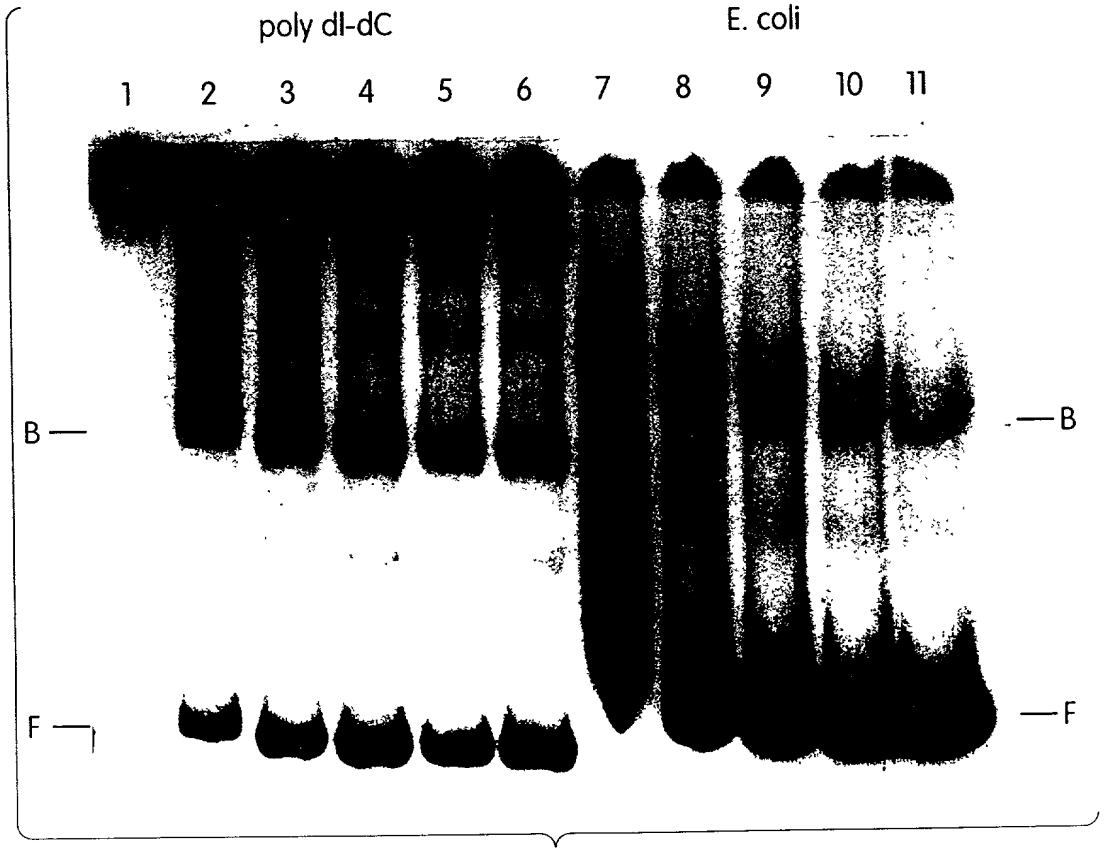


Fig. 1B

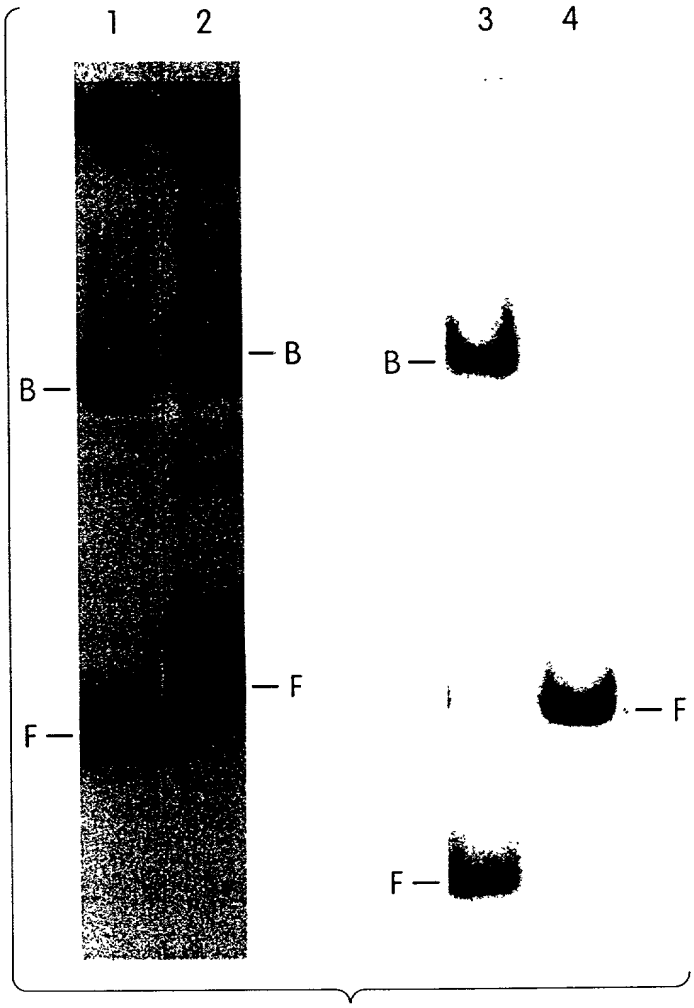


Fig. 1C

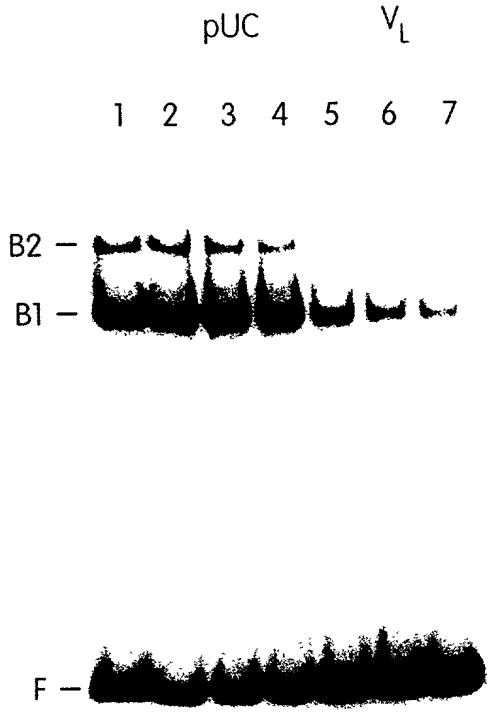


Fig. 2A

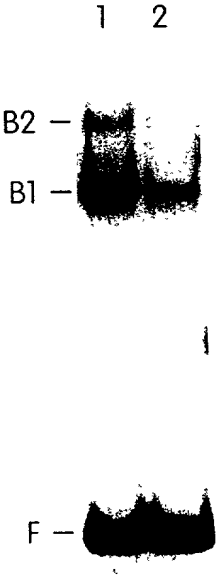


Fig. 2B

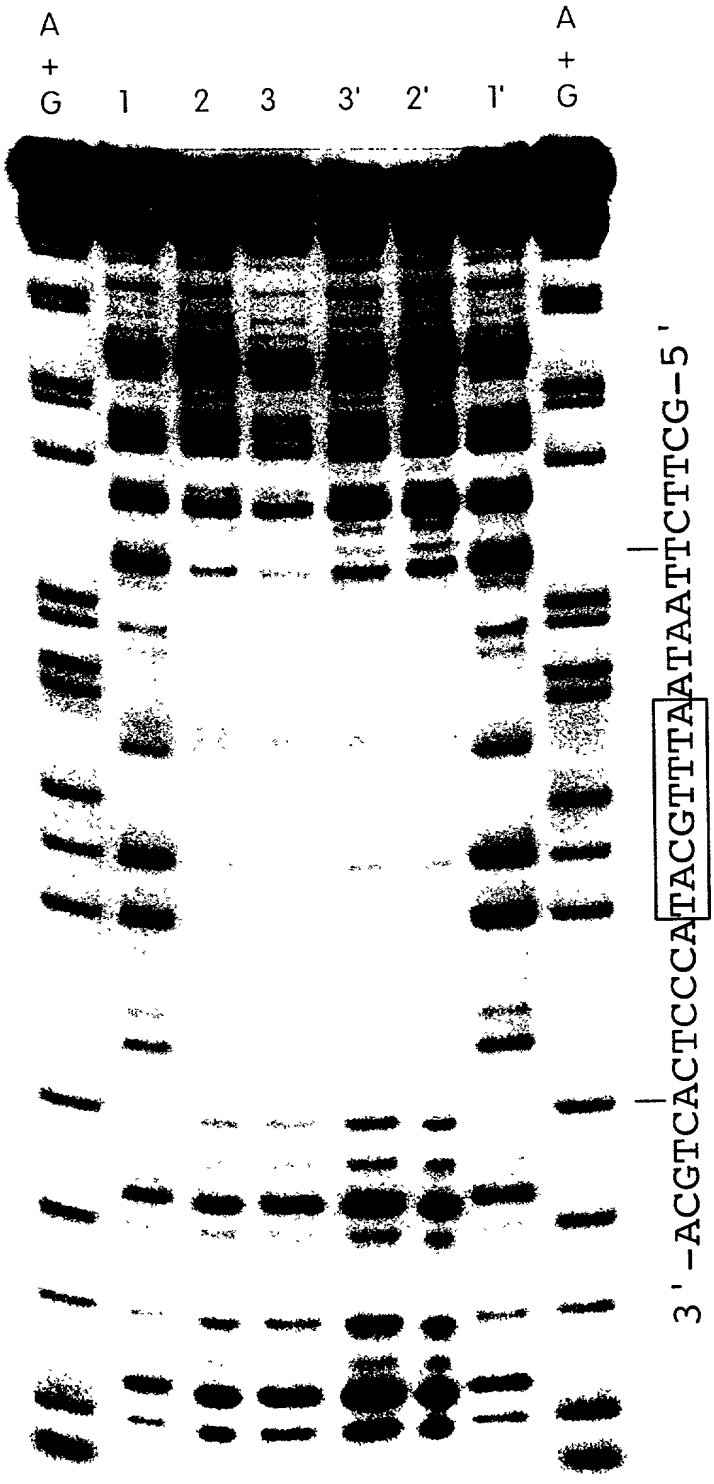


Fig. 3

	* *
V_L coding strand (-66)	TCTTAATA ATTTGCAT ACCCTCAC
V_H non-coding strand (-50)	CGCACATG ATTTGCAT ACTCATGA
J_H - Cμ coding strand (166)	CCTGGGTA ATTTGCAT TTCTAAAA

Fig. 4A

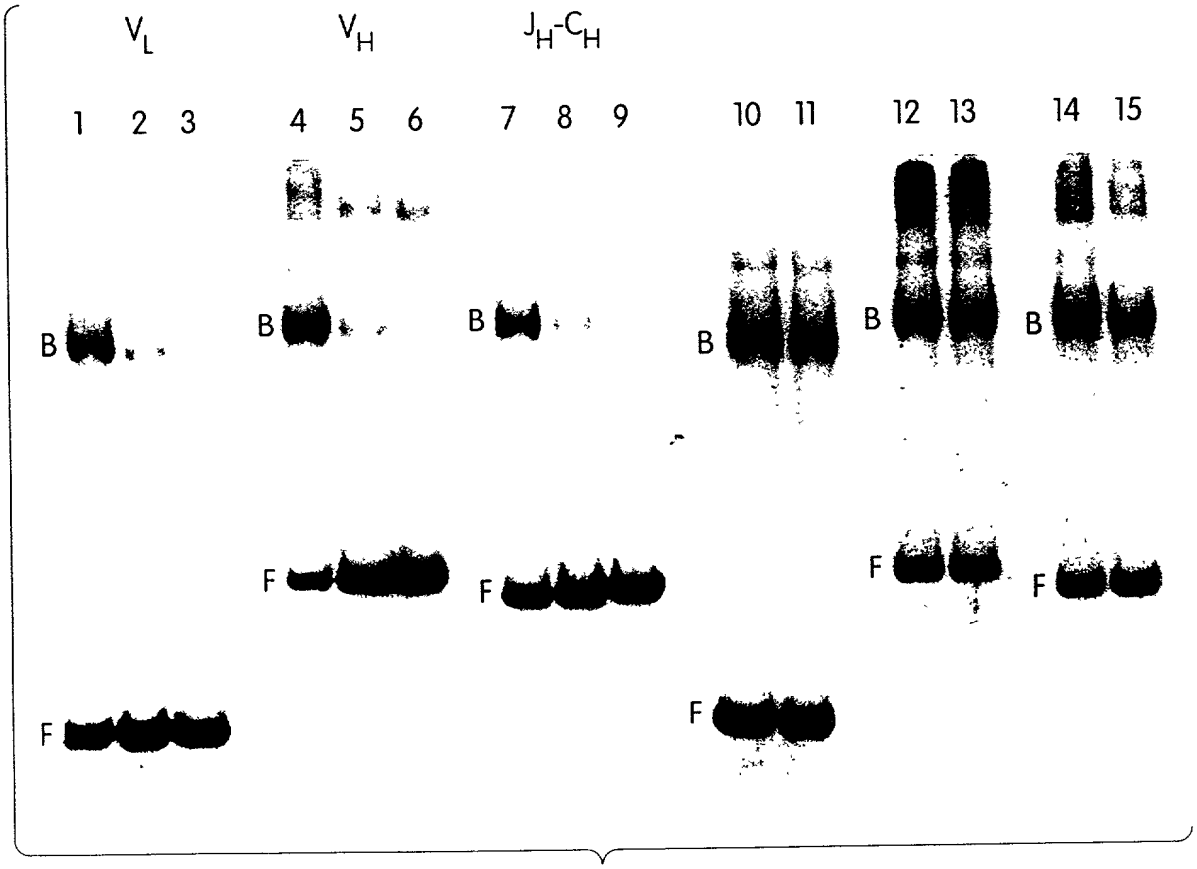


Fig. 4B

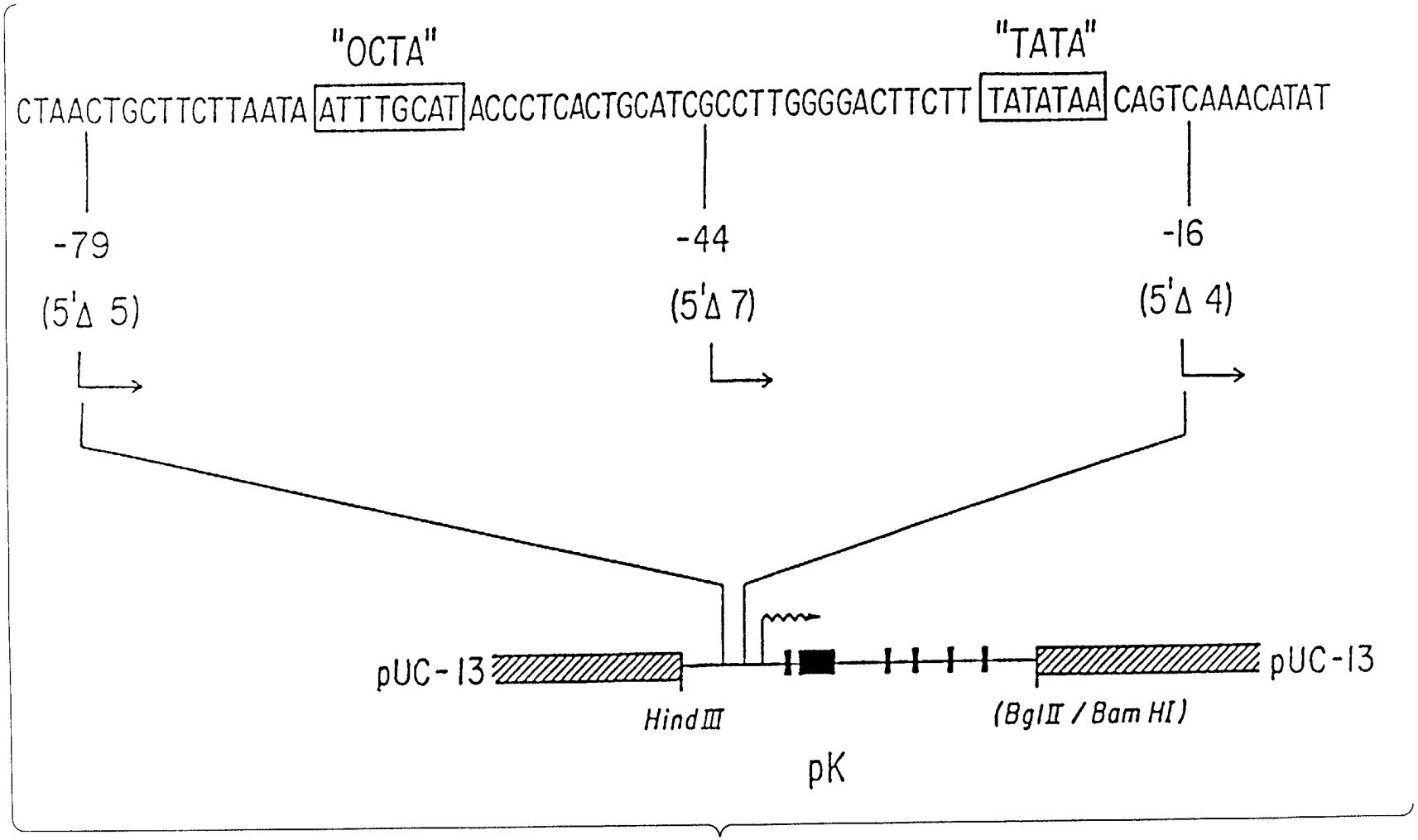


Fig. 5A

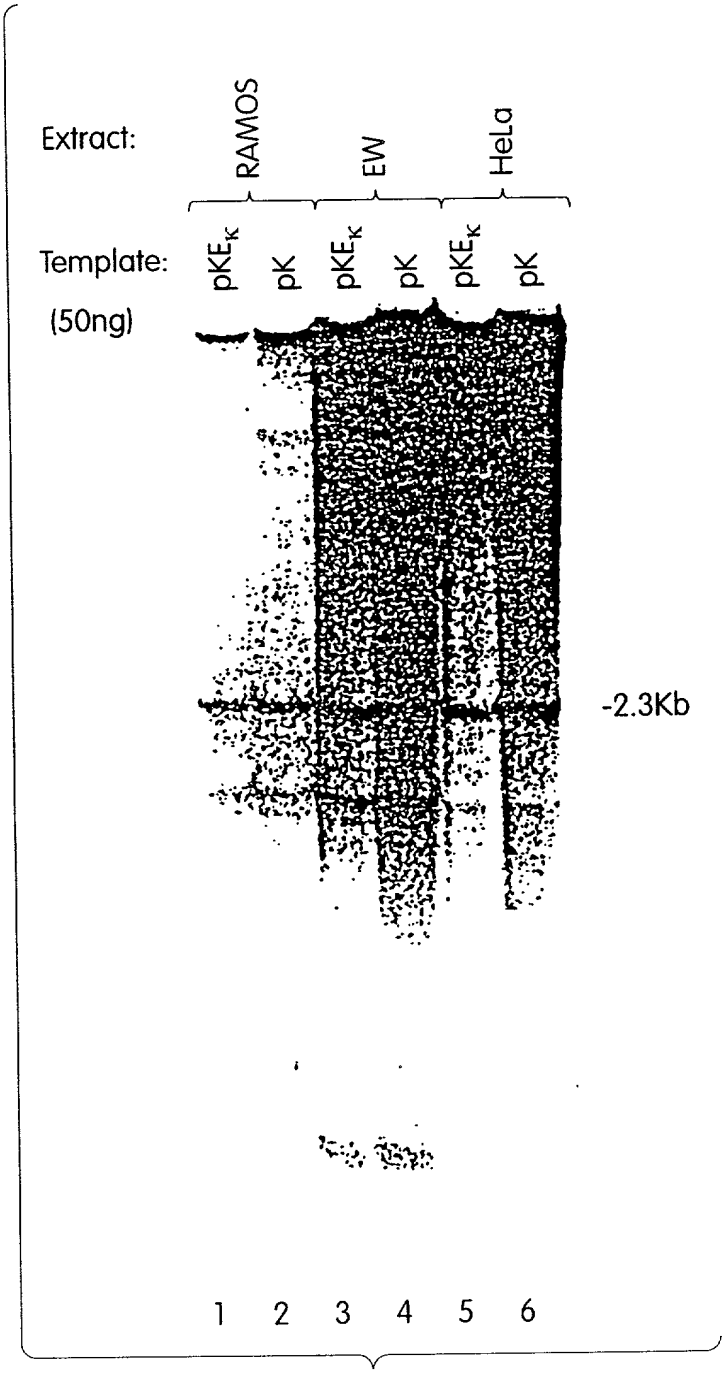

Extract:
RAMOS
EW
HeLa
Template:
(50ng)
pKE$_K$
pK
pKE$_K$
pK
pKE$_K$
pK
-2.3Kb
1 2 3 4 5 6

Fig. 5B

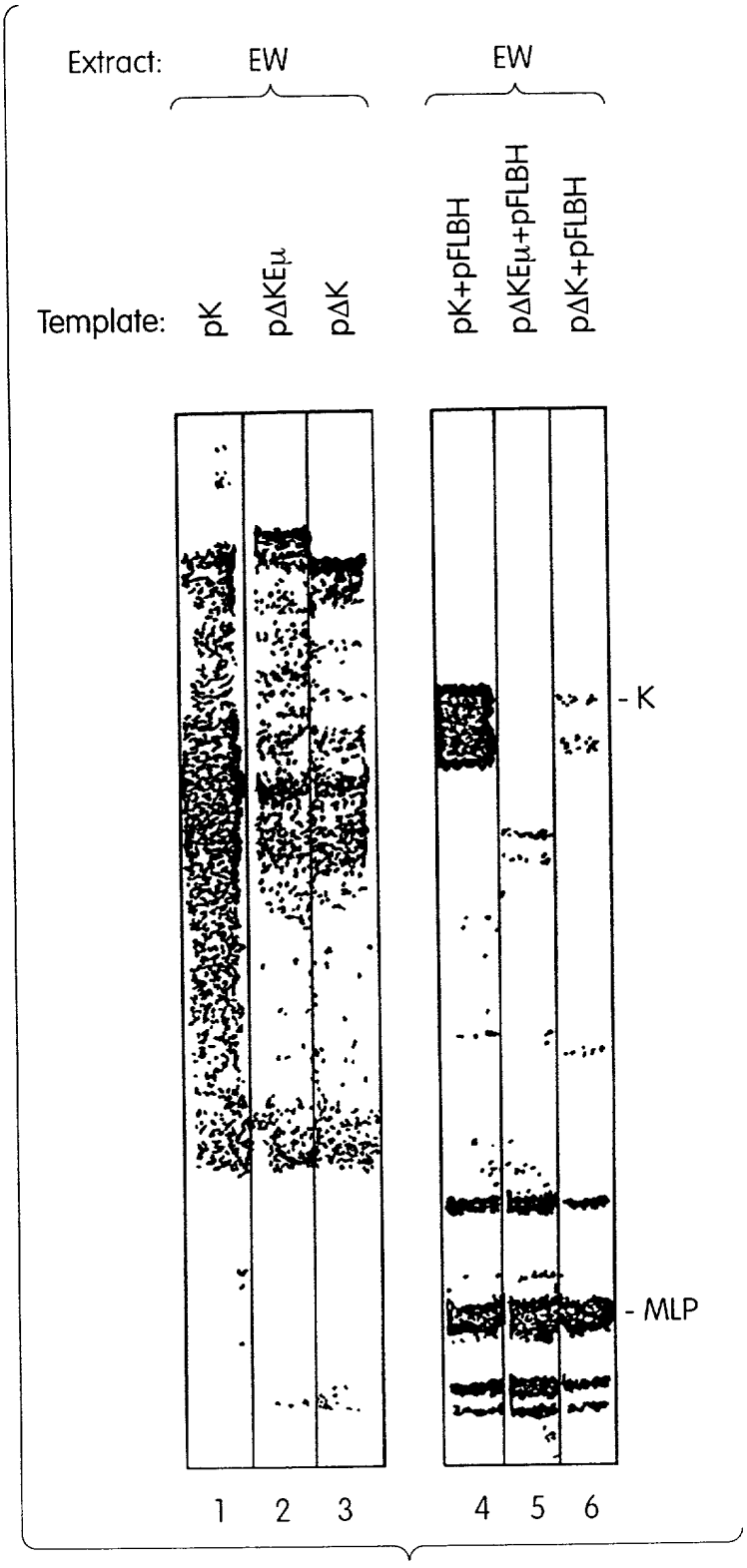

Extract:
EW
EW
Template:
pK
pΔKEμ
pΔK
pK+pFLBH
pΔKEμ+pFLBH
pΔK+pFLBH
- K
- MLP
1
2
3
4
5
6

Fig. 6

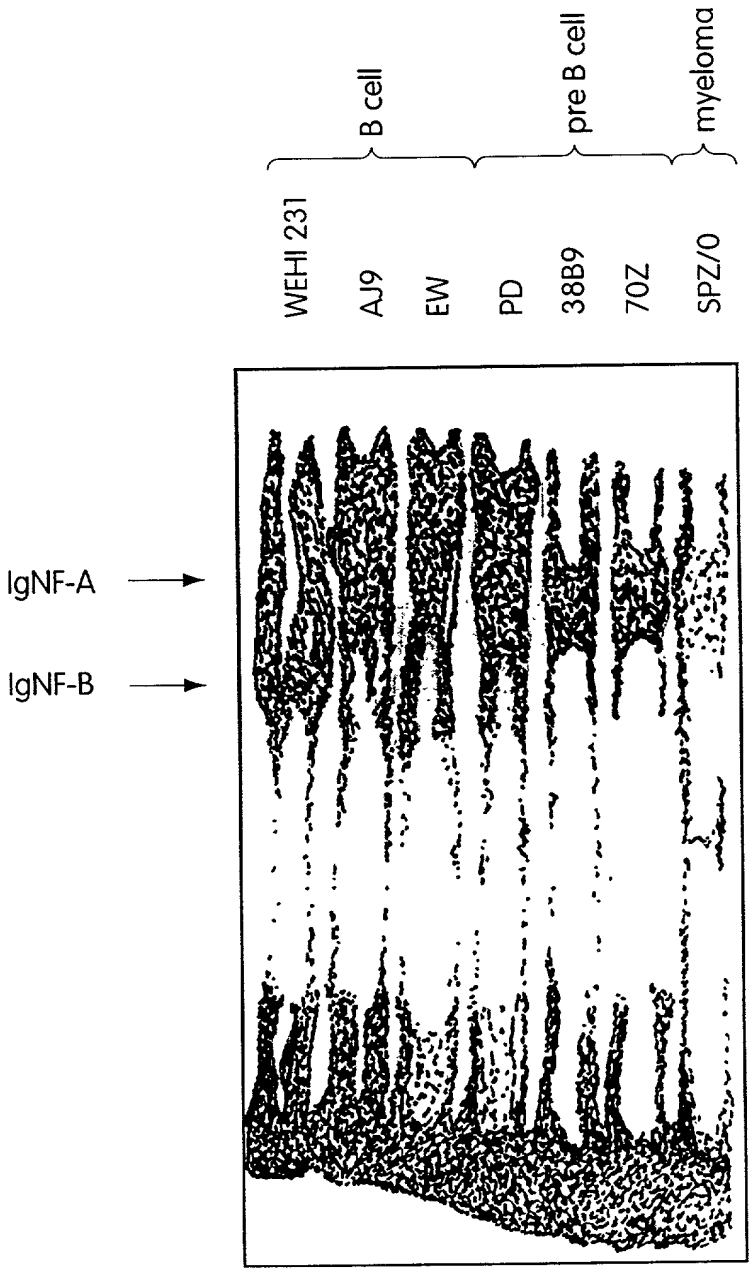

B cell
pre B cell
myeloma
WEHI 231
AJ9
EW
PD
38B9
70Z
SPZ/0
IgNF-A
IgNF-B

Fig. 7

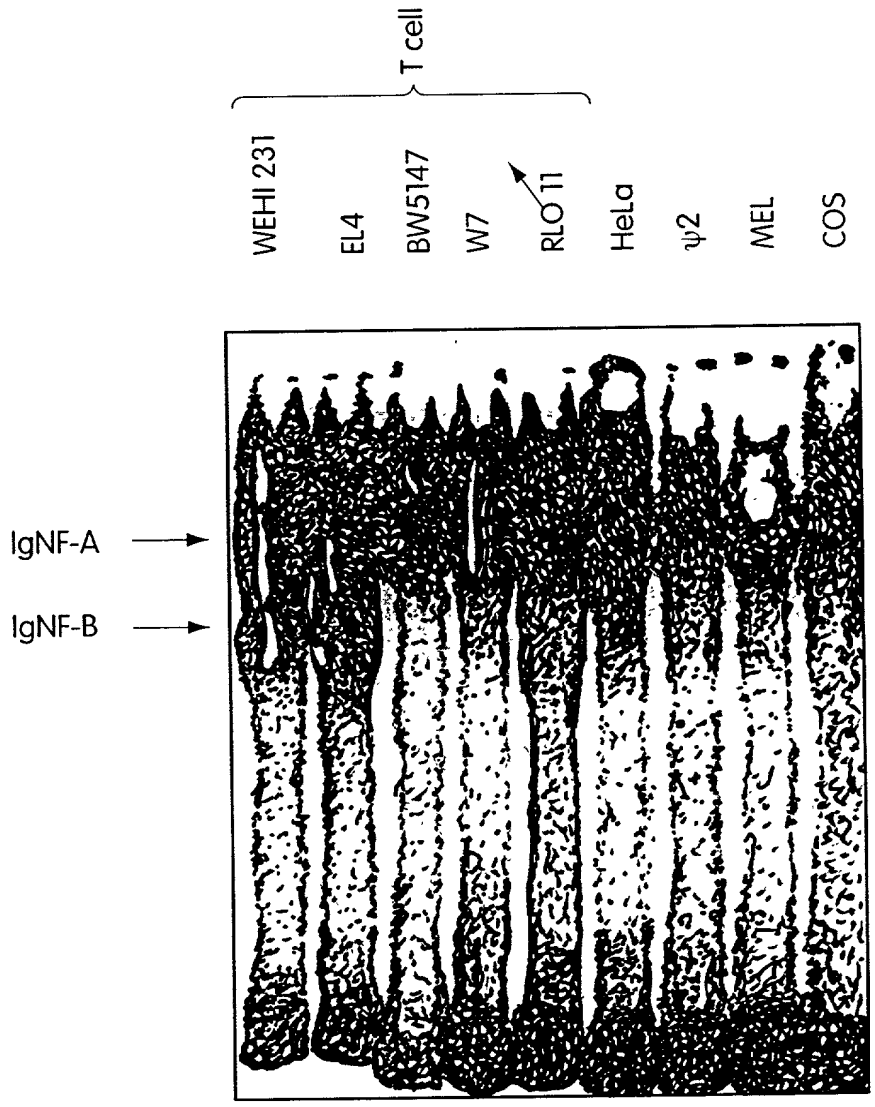
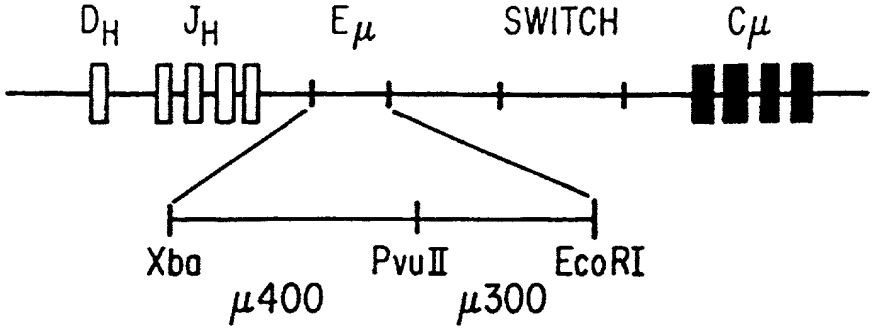

T cell
WEHI 231
EL4
BW5147
W7
RLO 11
HeLa
ψ2
MEL
COS
IgNF-A
IgNF-B

Fig. 8

Figure 9A



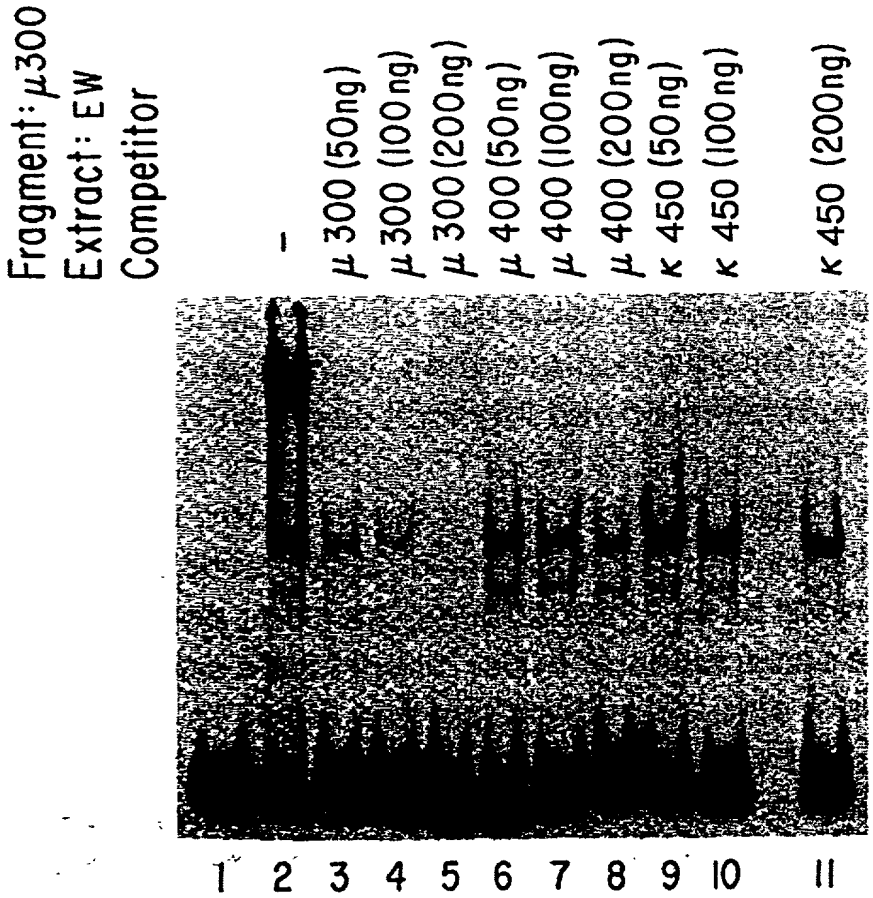


Figure 9B

Figure 10A

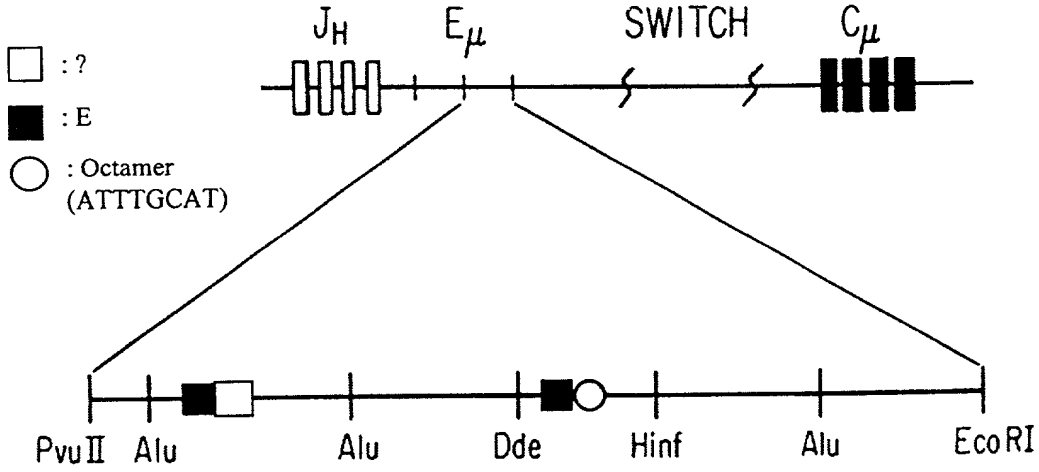
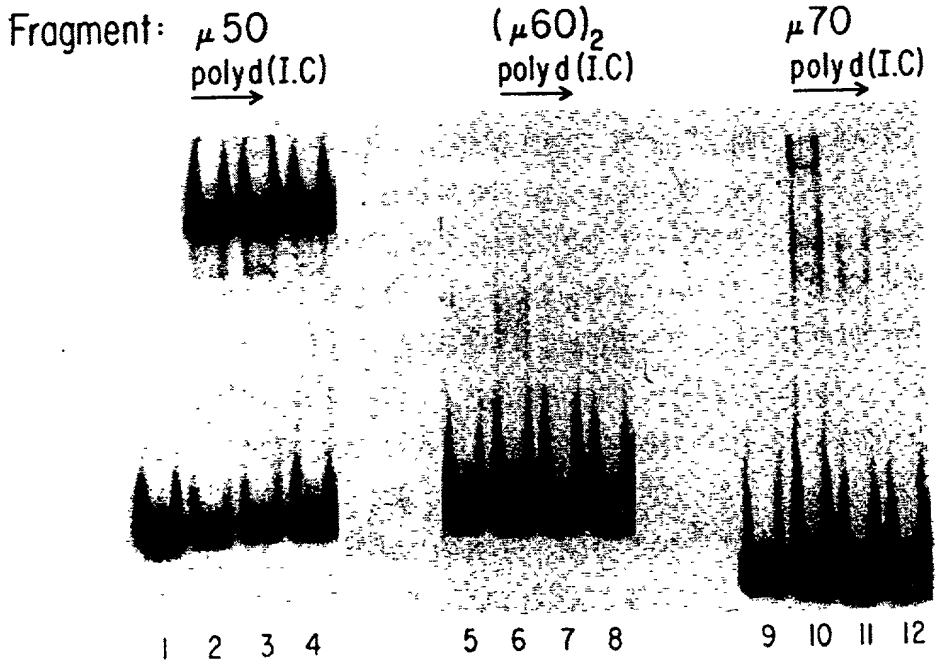


Figure 10B



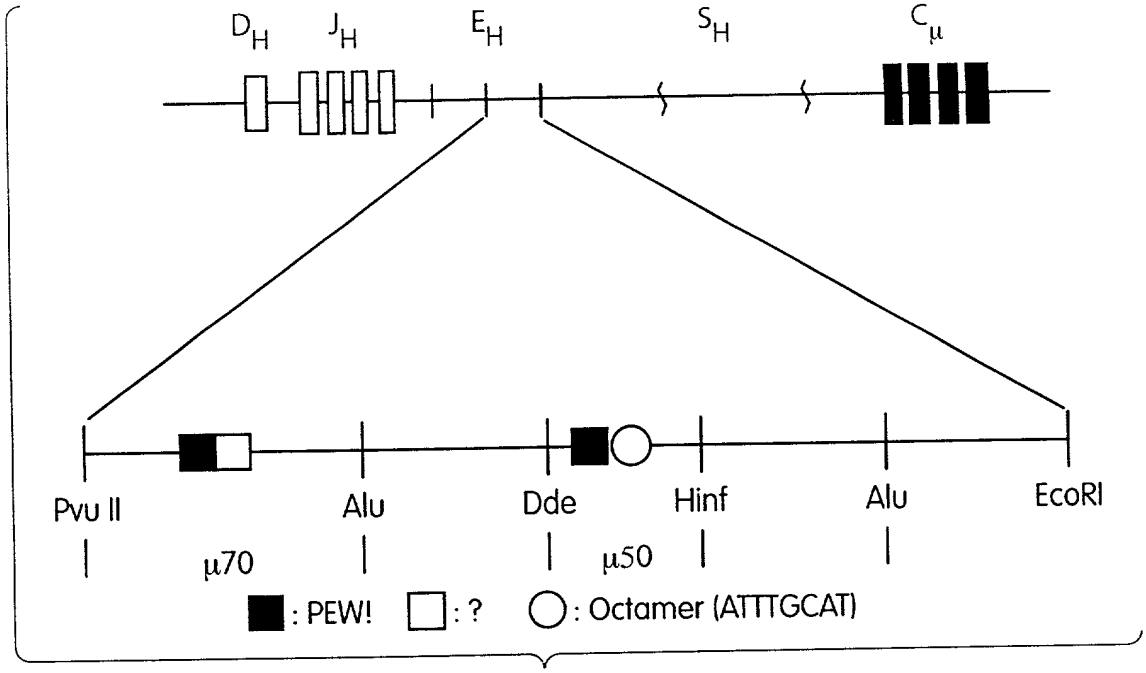


Fig. 10C

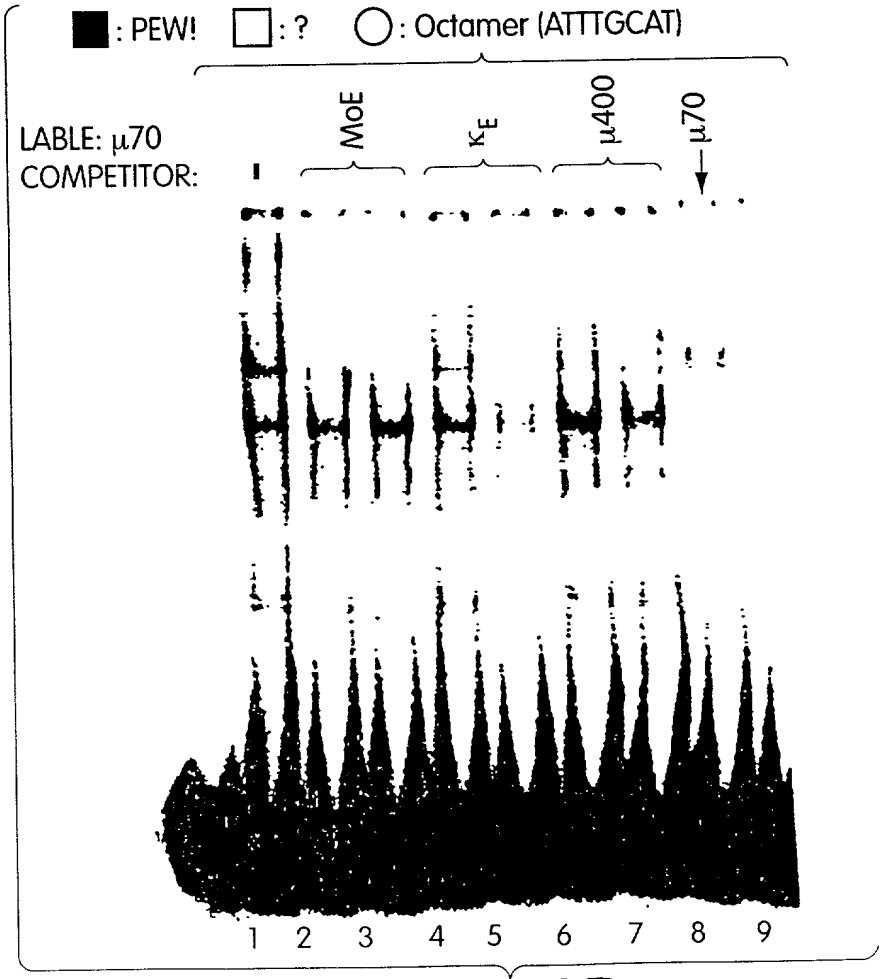


Fig. 10D

Figure 10E

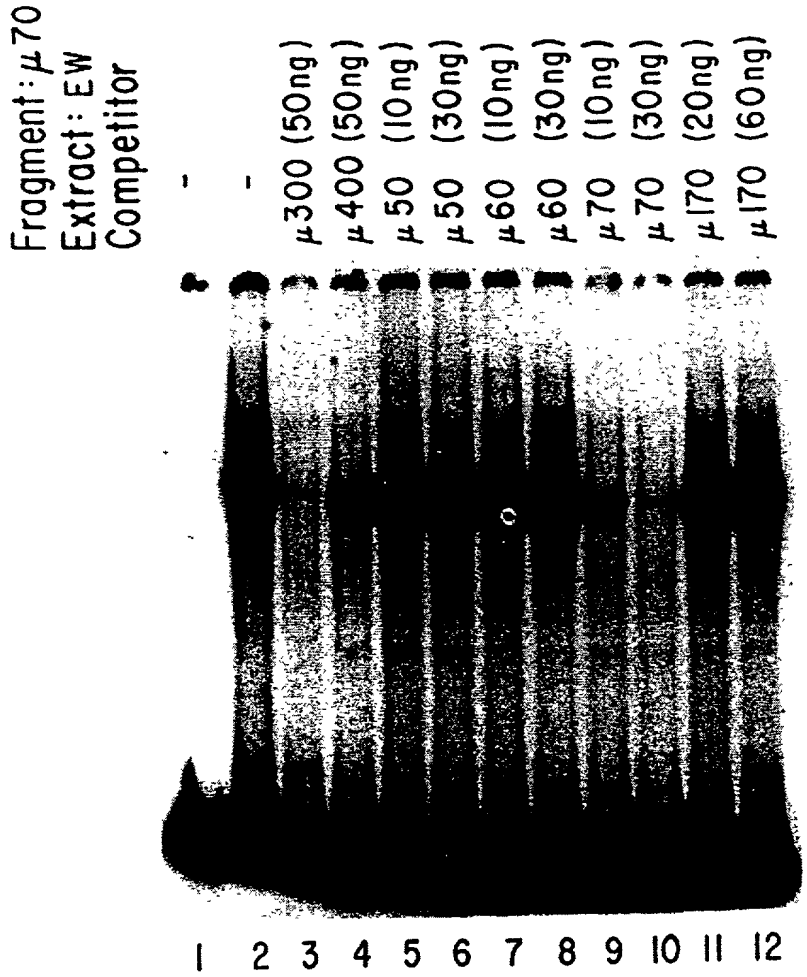


Figure 11A

Figure 11B

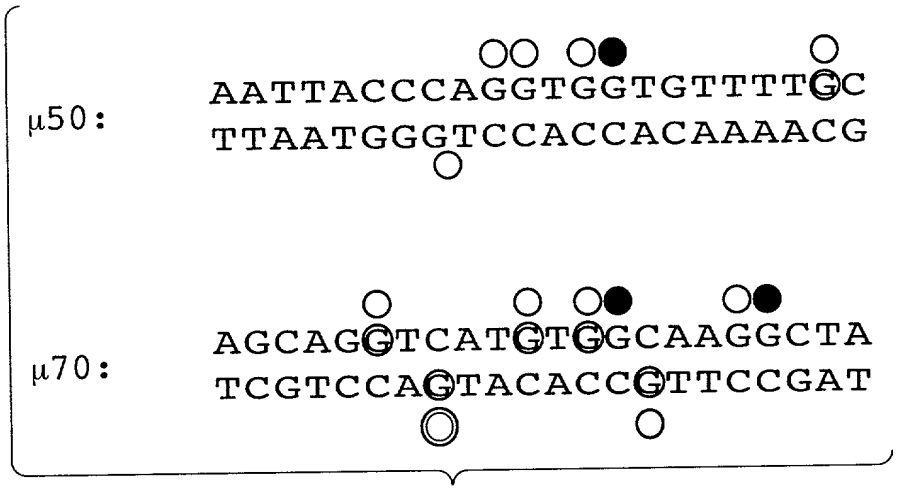

μ50:
AATTACCCAGGTGGTGTTTTGC
TTAATGGGTCCACCACAAAACG
μ70:
AGCAGGTCATGTGGCAAGGCTA
TCGTCCAGTACACCGTTCCGAT

Fig. 11C

Figure 12A

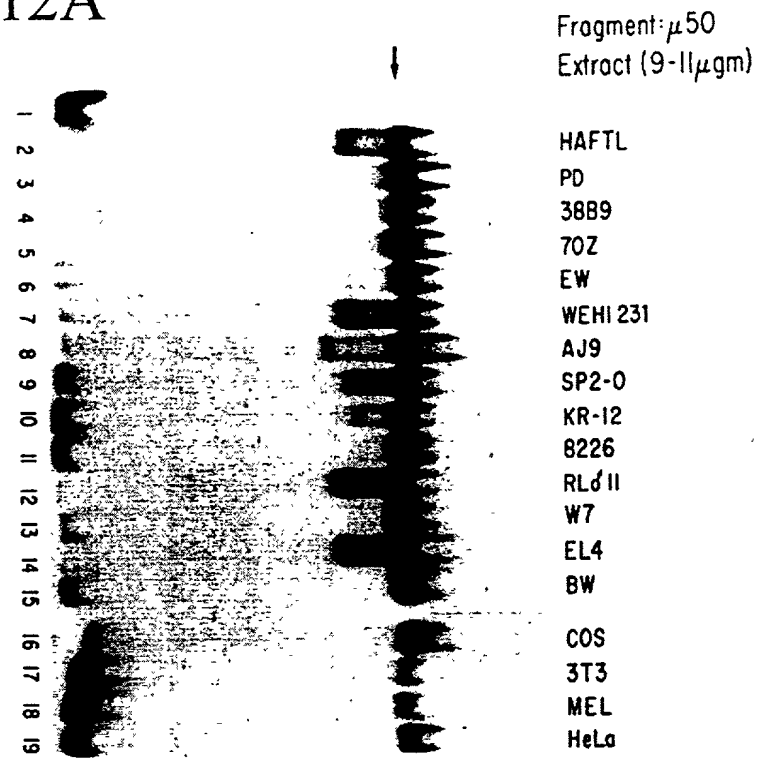


Figure 12B

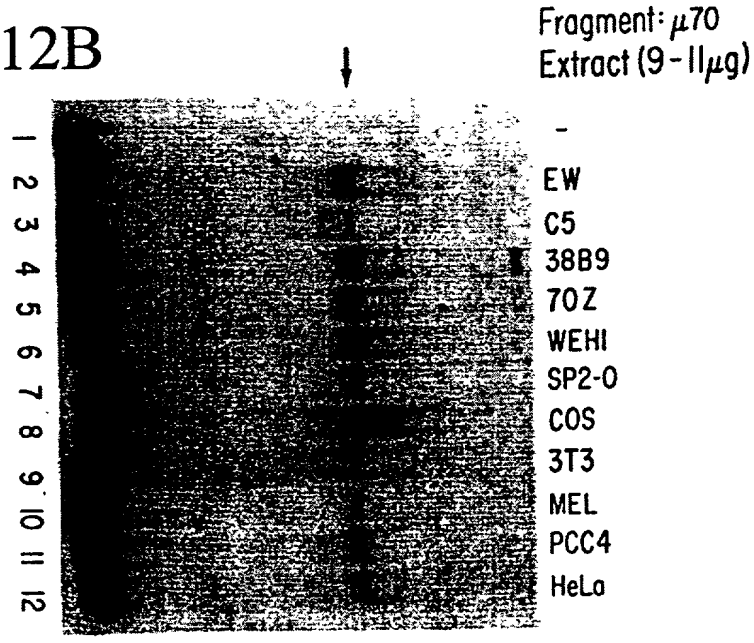


Figure 13A

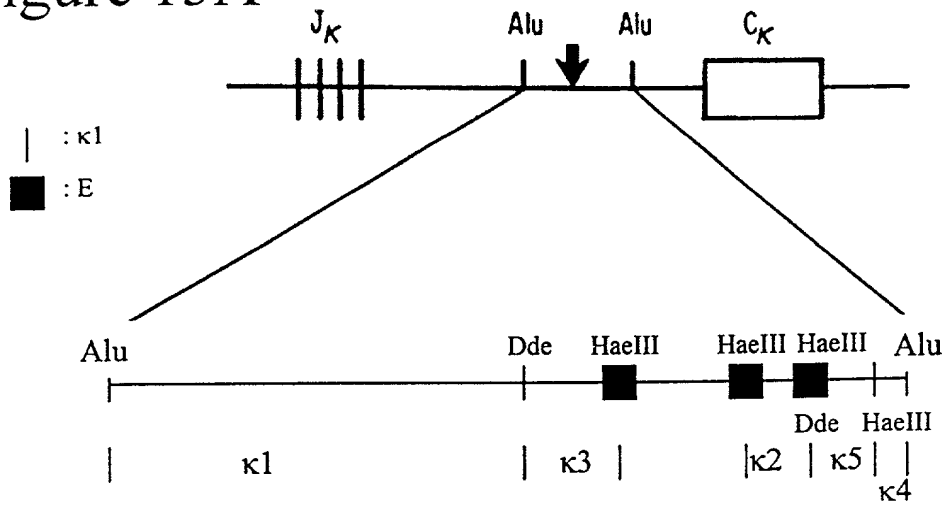


Figure 13B

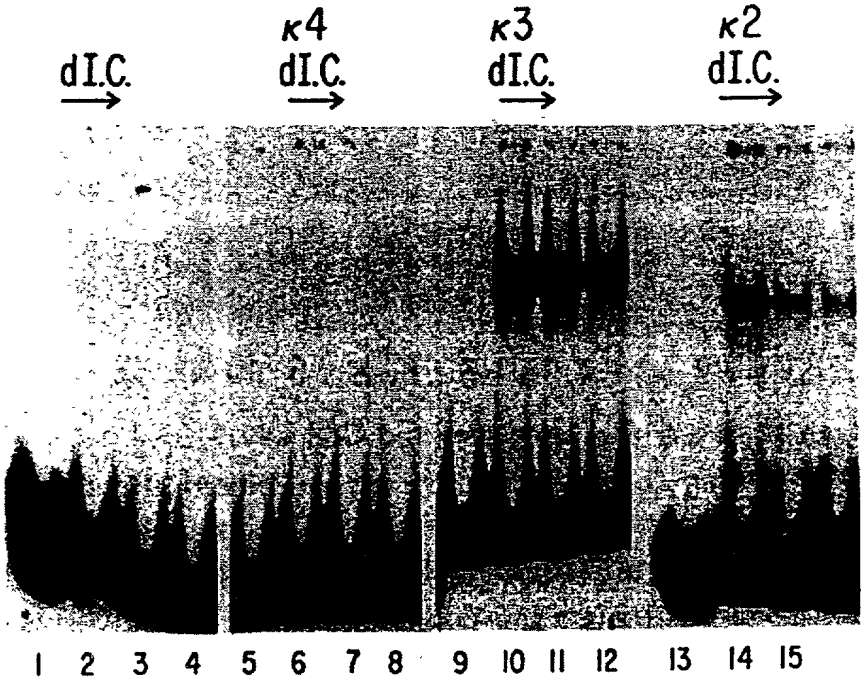


Figure 13C

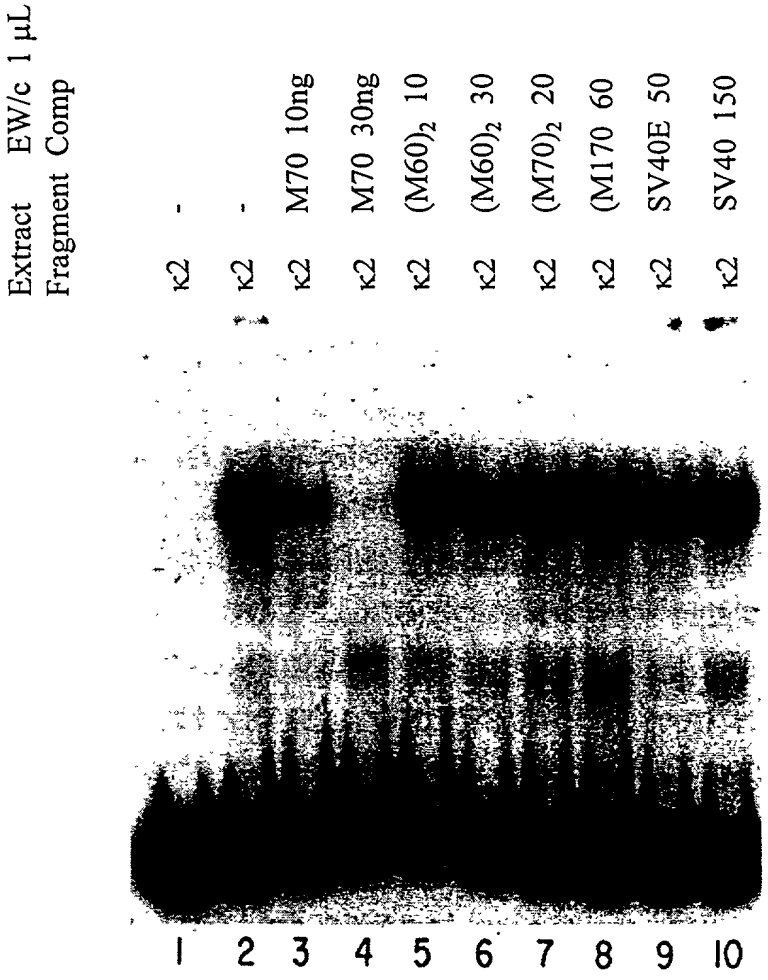

Extract EW/c 1 µL
Fragment Comp
κ2 -
κ2 -
κ2 M70 10ng
κ2 M70 30ng
κ2 (M60)2 10
κ2 (M60)2 30
κ2 (M70)2 20
κ2 (M170 60
κ2 SV40E 50
κ2 SV40 150
1 2 3 4 5 6 7 8 9 10

Figure 13D

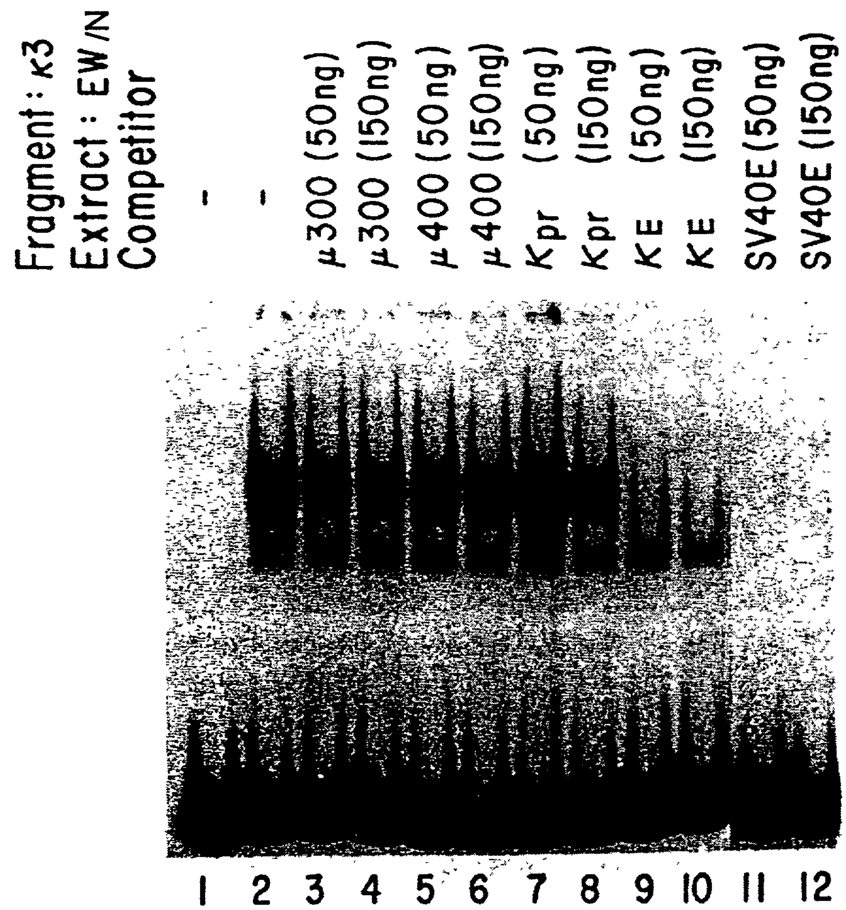

Fragment : κ3
Extract : EW/N
Competitor
-
-
μ300 (50ng)
μ300 (150ng)
μ400 (50ng)
μ400 (150ng)
Kpr (50ng)
Kpr (150ng)
KE (50ng)
KE (150ng)
SV40E (50ng)
SV40E (150ng)
1 2 3 4 5 6 7 8 9 10 11 12

Figure 14

Figure 15A

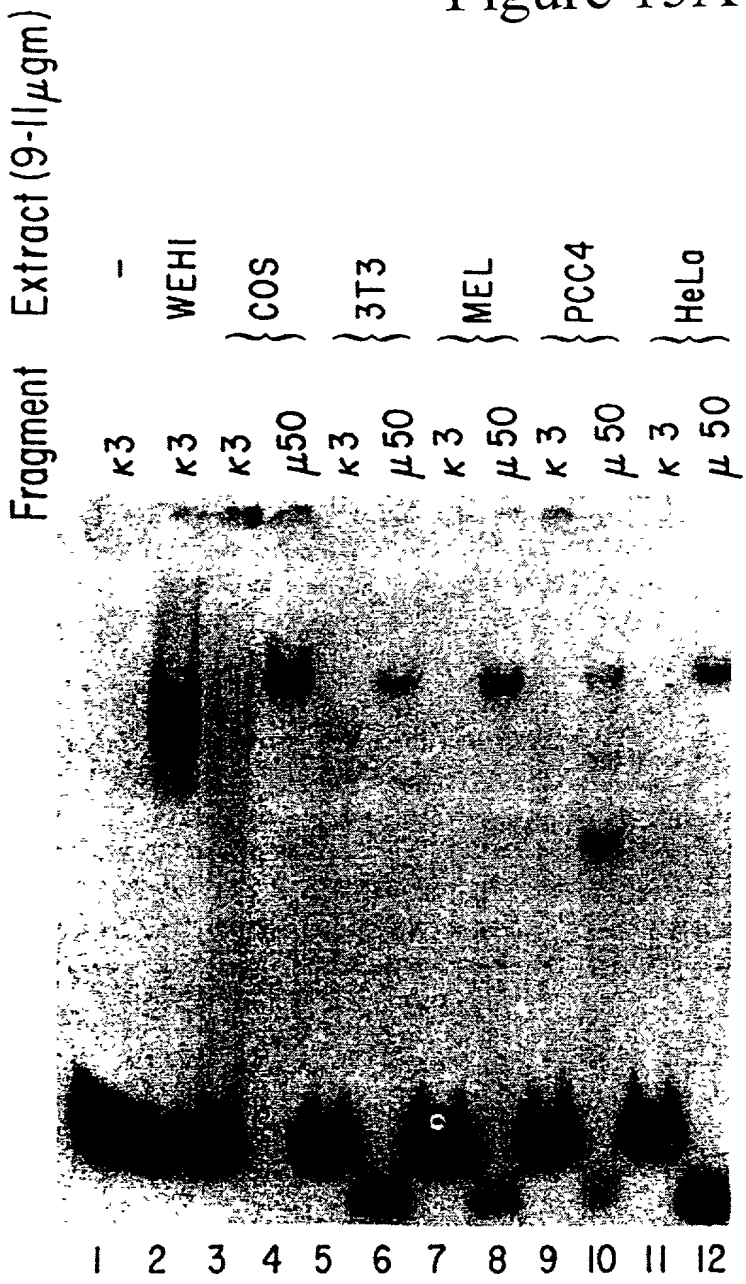
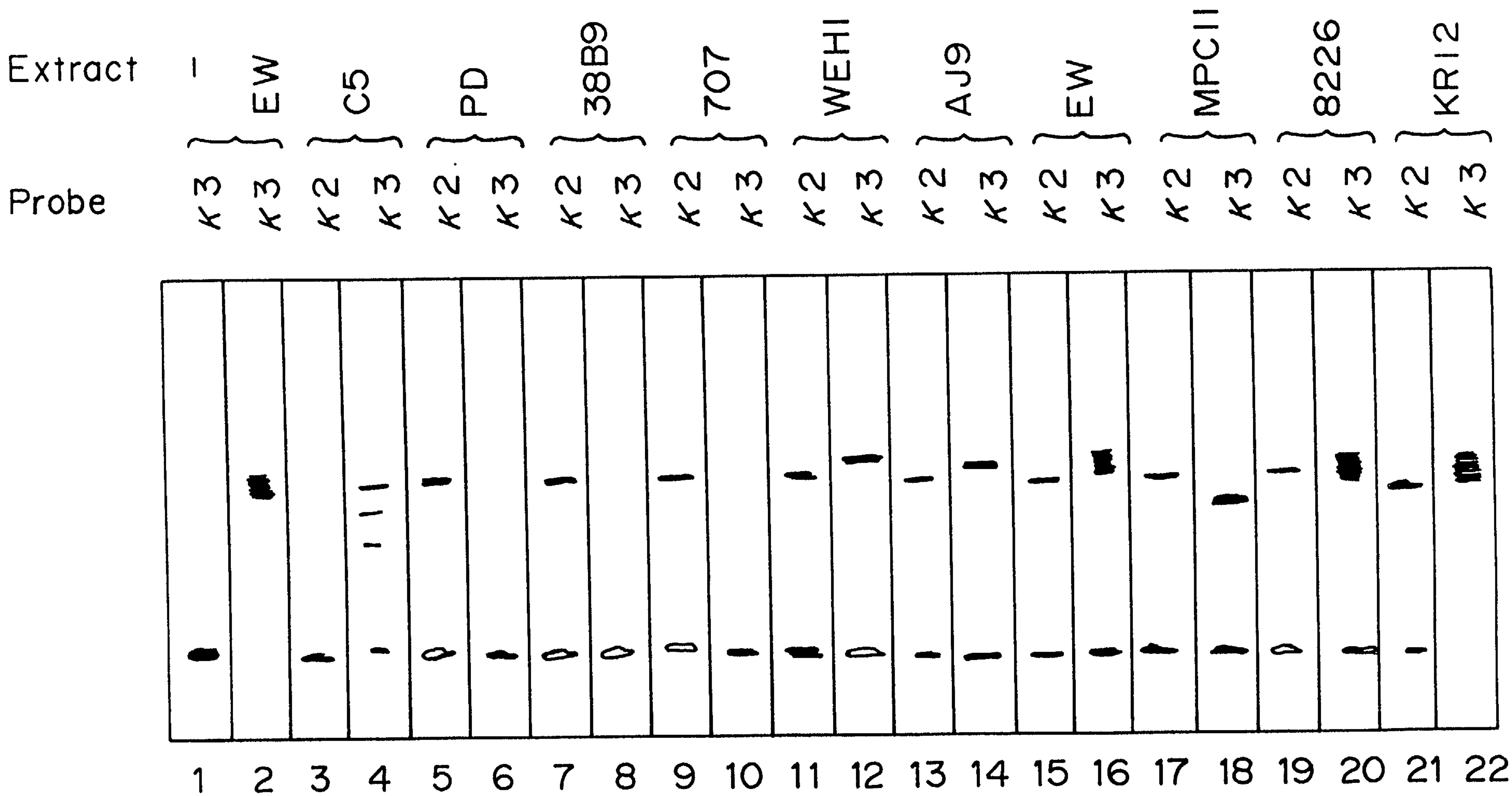


FIGURE 15b



Extract
—
EW
C5
PD
38B9
707
WEHI
AJ9
EW
MPC11
8226
KR12
Probe
κ3 κ3 κ2 κ3 κ2 κ3 κ2 κ3 κ2 κ3 κ2 κ3 κ2 κ3 κ2 κ3 κ2 κ3 κ2 κ3 κ2 κ3
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

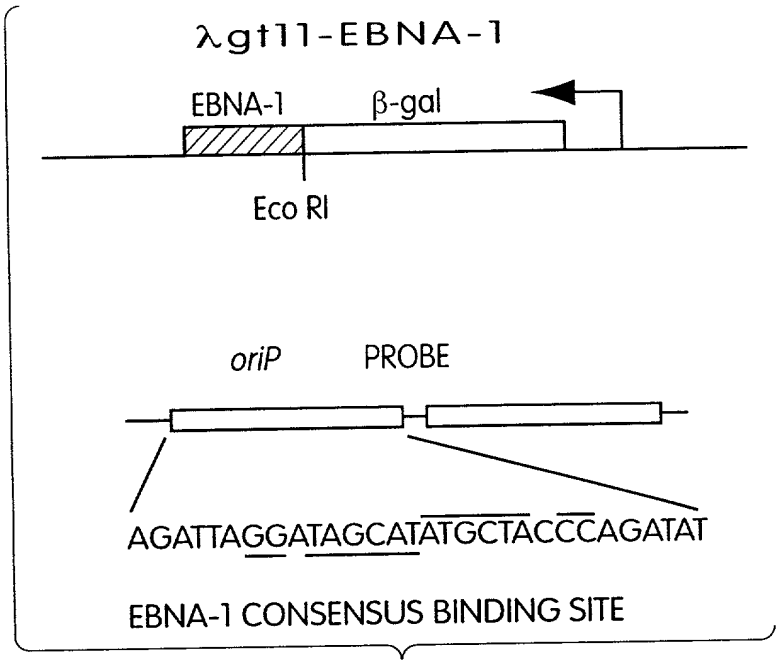


Fig. 16

MHC	TGGGGATTCCCCA
mhc1	TGcGGATTCCCaA
κ EN	aGGGGACTttCCg
κ en	aaattAcTttCCg
SVEN	TGGGGAcTttCCA
HIV	TGGGGAcTttCCA
	aaGGGAcTttCCg

Fig. 17

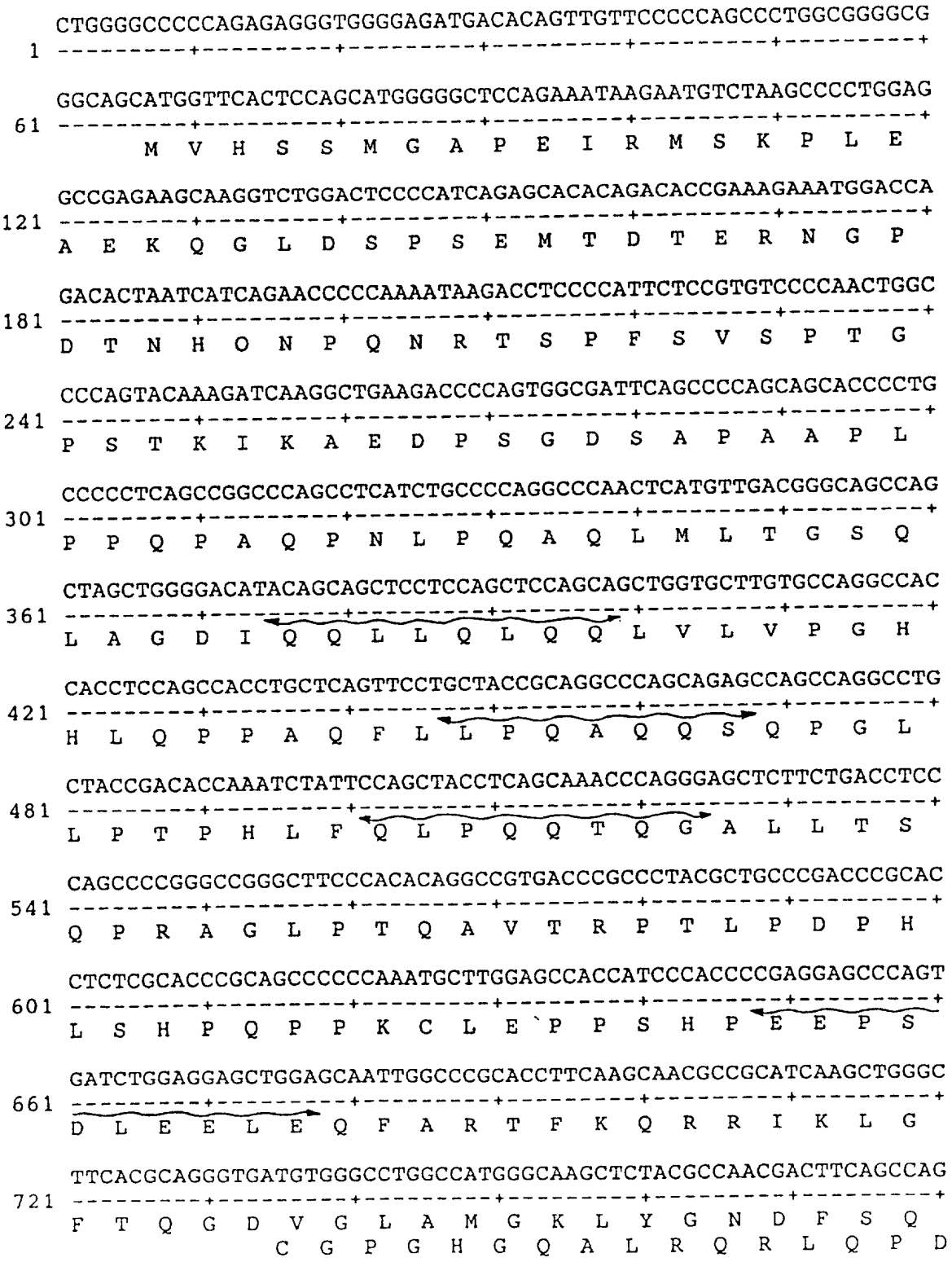

CTGGGGCCCCCAGAGAGGGTGGGGAGATGACACAGTTGTTCCCCCAGCCCTGGCGGGGCG
1
GGCAGCATGGTTCACTCCAGCATGGGGGCTCCAGAAATAAGAATGTCTAAGCCCCTGGAG
61
M V H S S M G A P E I R M S K P L E
GCCGAGAAGCAAGGTCTGGACTCCCCATCAGAGCACACAGACACCGAAAGAAATGGACCA
121
A E K Q G L D S P S E M T D T E R N G P
GACACTAATCATCAGAACCCCCAAAATAAGACCTCCCCATTCTCCGTGTCCCCAACTGGC
181
D T N H O N P Q N R T S P F S V S P T G
CCCAGTACAAAGATCAAGGCTGAAGACCCCAGTGGCGATTCAGCCCCAGCAGCACCCCTG
241
P S T K I K A E D P S G D S A P A A P L
CCCCCTCAGCCGGCCCAGCCTCATCTGCCCCAGGCCCAACTCATGTTGACGGGCAGCCAG
301
P P Q P A Q P N L P Q A Q L M L T G S Q
CTAGCTGGGGACATACAGCAGCTCCTCCAGCTCCAGCAGCTGGTGCTTGTGCCAGGCCAC
361
L A G D I Q Q L L Q L Q Q L V L V P G H
CACCTCCAGCCACCTGCTCAGTTCCTGCTACCGCAGGCCCAGCAGAGCCAGCCAGGCCTG
421
H L Q P P A Q F L L P Q A Q Q S Q P G L
CTACCGACACCAAATCTATTCCAGCTACCTCAGCAAACCCAGGGAGCTCTTCTGACCTCC
481
L P T P H L F Q L P Q Q T Q G A L L T S
CAGCCCCGGGCCGGGCTTCCCACACAGGCCGTGACCCGCCCTACGCTGCCCGACCCGCAC
541
Q P R A G L P T Q A V T R P T L P D P H
CTCTCGCACCCGCAGCCCCCCAAATGCTTGGAGCCACCATCCCACCCCGAGGAGCCCAGT
601
L S H P Q P P K C L E P P S H P E E P S
GATCTGGAGGAGCTGGAGCAATTGGCCCGCACCTTCAAGCAACGCCGCATCAAGCTGGGC
661
D L E E L E Q F A R T F K Q R R I K L G
TTCACGCAGGGTGATGTGGGCCTGGCCATGGGCAAGCTCTACGCCAACGACTTCAGCCAG
721
F T Q G D V G L A M G K L Y G N D F S Q
C G P G H G Q A L R Q R L Q P D

Fig. 18A

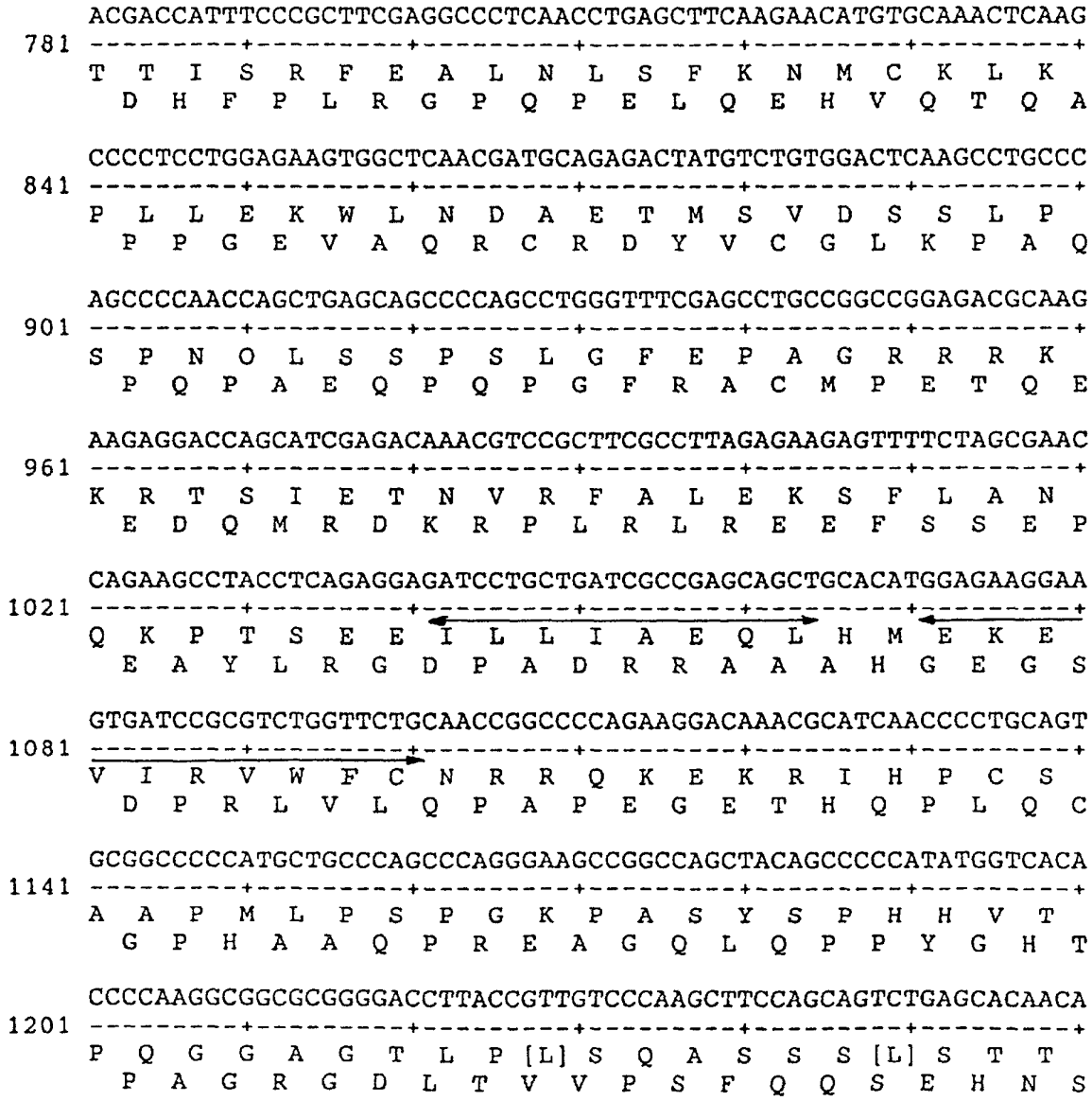


Fig. 18A
(CONTINUED)

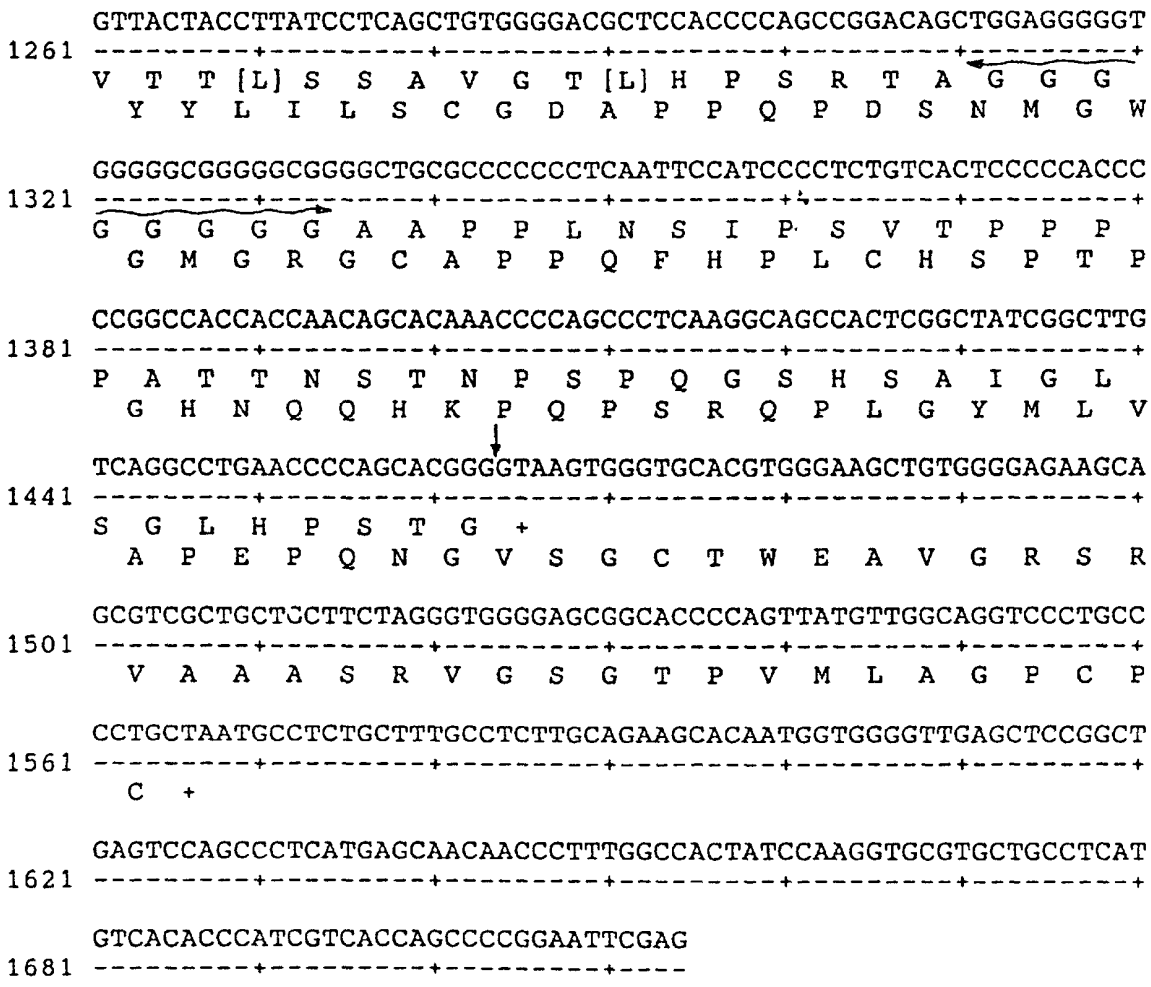


Fig. 18A
(CONTINUED)


CCTCAAGGCAGCCACTCGGCTATCGGCTTGTCAGGCCTGAACCCCAGCACGGGCCCTGGC
1411
P Q G S H S A I G L S G L N P S T G P G
S A Q P L G Y R L V M P E P Q M G P N P
CTCTGGTGGAACCCTGCCCCTTACCAGCCTTGATGGCAGCGGGAATCTGGTGCTGGGGGC
1471
L W W N P A P Y Q P .
L V E P C P L P A L M A A G I W C W G Q
AGCCGGTGCAGCCCCGGGGAGCCCTGGCCTGGTGACCTCGCCGCTCTTCTTGAATCATGC
1531
P V Q P R G A L A W .
TGGGCTGCCCCTGCTCAGCACCCCGCCTGGTGTGGGCCTGGTCTCAGCAGCGGCTGCGGG
1591
TGTGGCAGCCTCCATCTCCAGCAAGTCTCCTGGCCTCTCCTCCTCATCCTCTTCATCCTC
1651
ATCCTCCTCCTCCTCCACTTGCAGCGAGACGGCAGCACAGACCCTGGAGGTCCAGGGGGG
1711
CCCGAGGCAGGGTCCAAACCTGAGTGAGGGCCAGCCATGCCTCCCCTCCCATTCCTCTGG
1771
TCCCTGCCCCCGGAATTC
1831

Fig. 18B

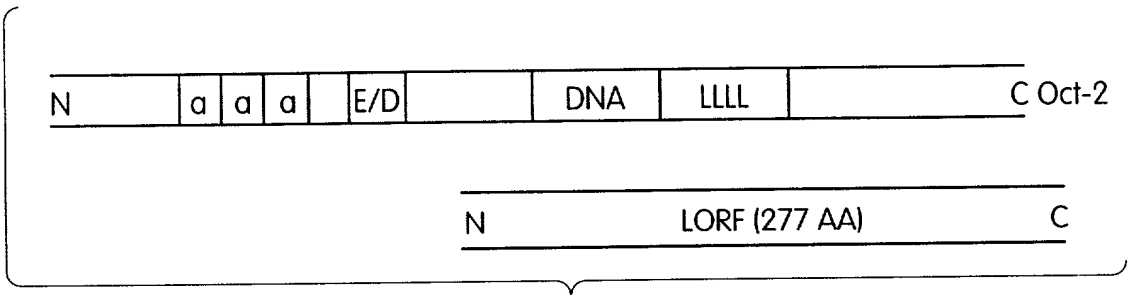


Fig. 18C

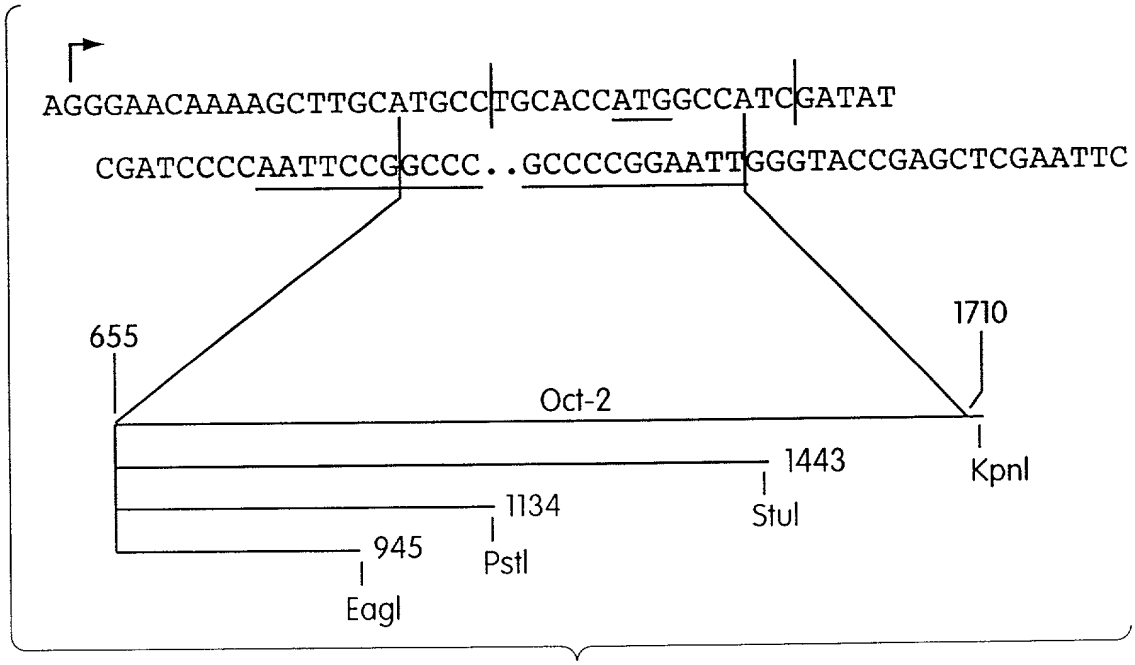


Fig. 19

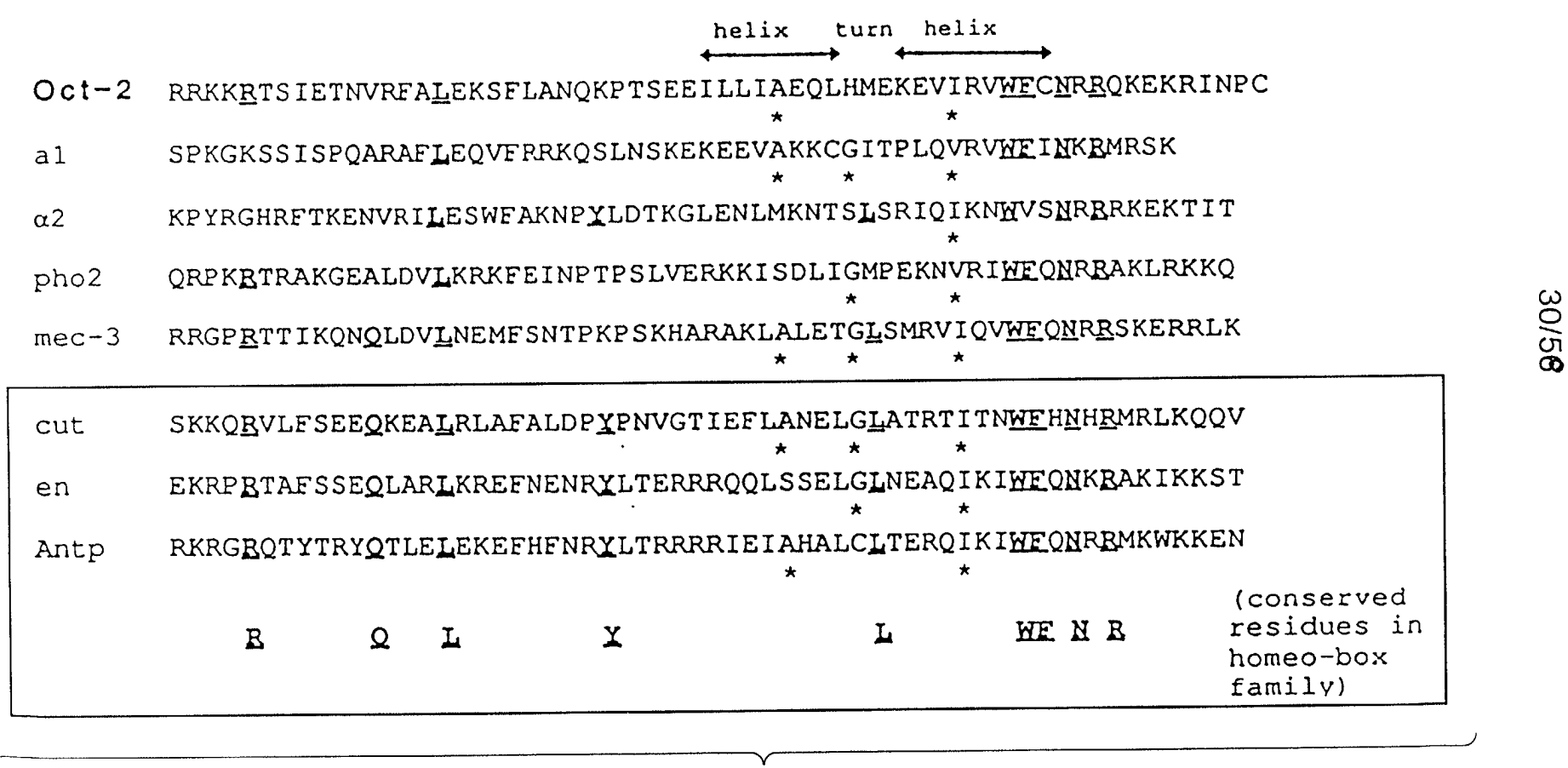

helix
turn
helix
Oct-2 RRKKRTSIETNVRFALEKSFLANQKPTSEEILLIAEQLHMEKEVIRVWFCNRRQKEKRINPC
a1 SPKGKSSISPQARAFLEQVFRRKQSLNSKEKEEVAKKCGITPLQVRVWFINKRMRSK
α2 KPYRGHRFTKENVRILESWFAKNPYLDTKGLENLMKNTSLSRIQIKNWVSNRRRKEKTIT
pho2 QRPKRTRAKGEALDVLKRKFEINPTPSLVERKKISDLIGMPEKNVRIWFQNRRAKLRKKQ
mec-3 RRGPRTTIKQNQLDVLNEMFSNTPKPSKHARAKLALETGLSMRVIQVWFQNRRSKERRLK
cut SKKQRVLFSEEQKEALRLAFALDPYPNVGTIEFLANELGLATRTITNWFHNHRMRLKQQV
en EKRPRTAFSSEQLARLKREFNENRYLTERRRQQLSSELGLNEAQIKIWFQNKRAKIKKST
Antp RKRGRQTYTRYQTLELEKEFHFNRYLTRRRRIEIAHALCLTERQIKIWFQNRRMKWKKEN
R Q L Y L WF N R
(conserved residues in homeo-box family)

Fig. 20

Figure 21A

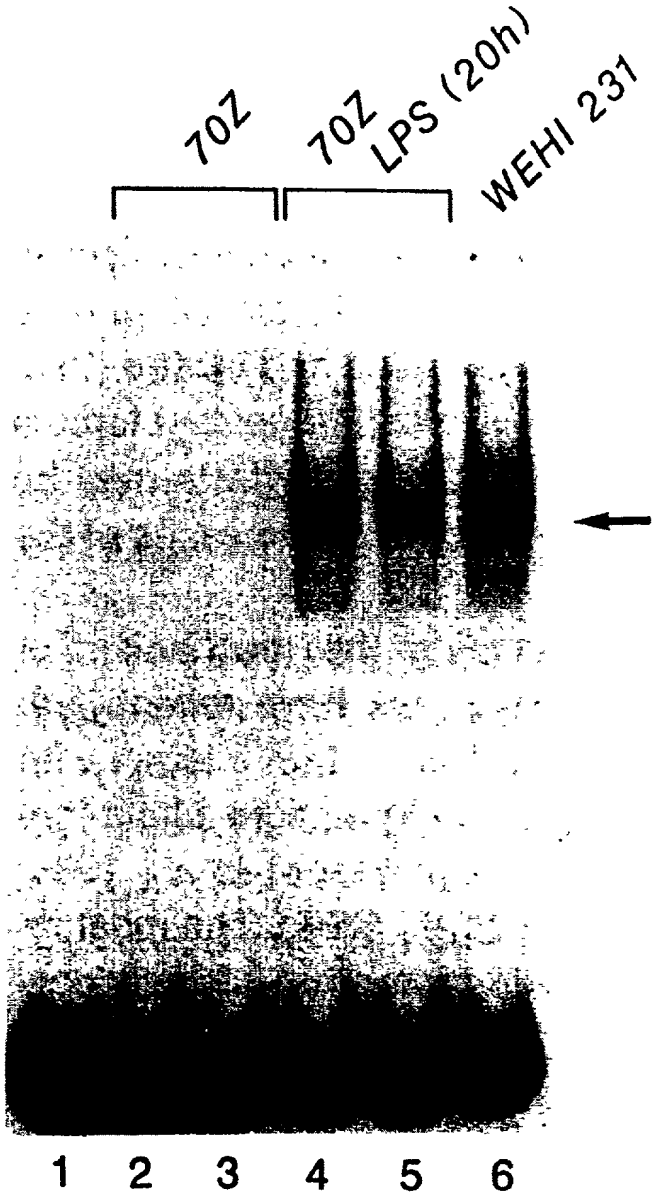


Figure 21B

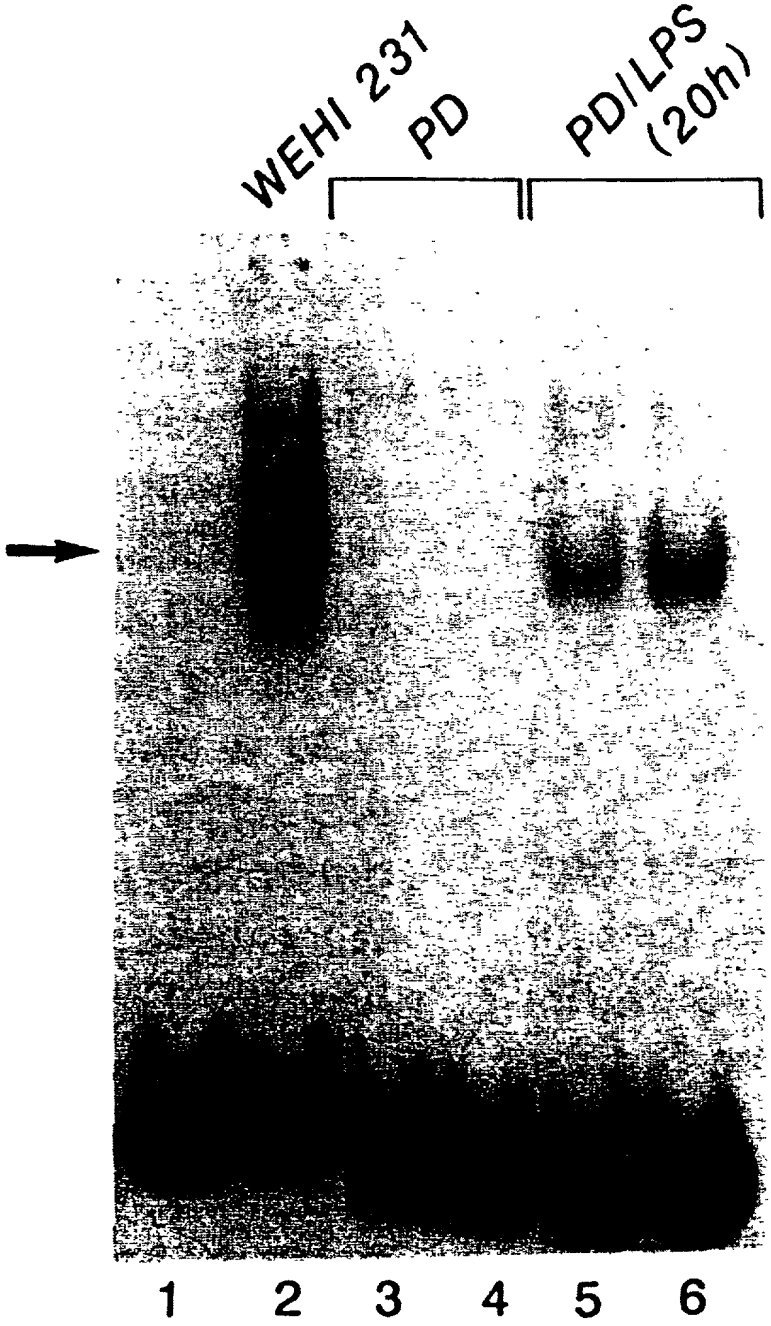


Figure 22A

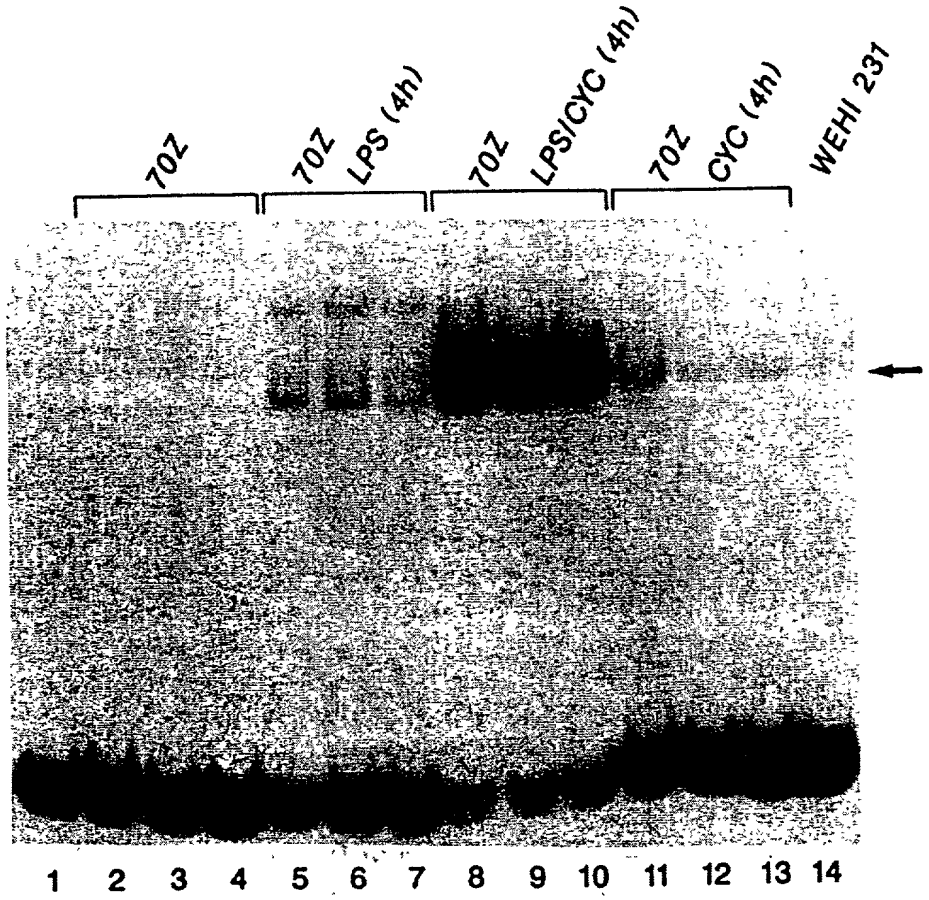

70Z
70Z LPS (4h)
70Z LPS/CYC (4h)
70Z CYC (4h)
WEHI 231
1 2 3 4 5 6 7 8 9 10 11 12 13 14

Figure 22B

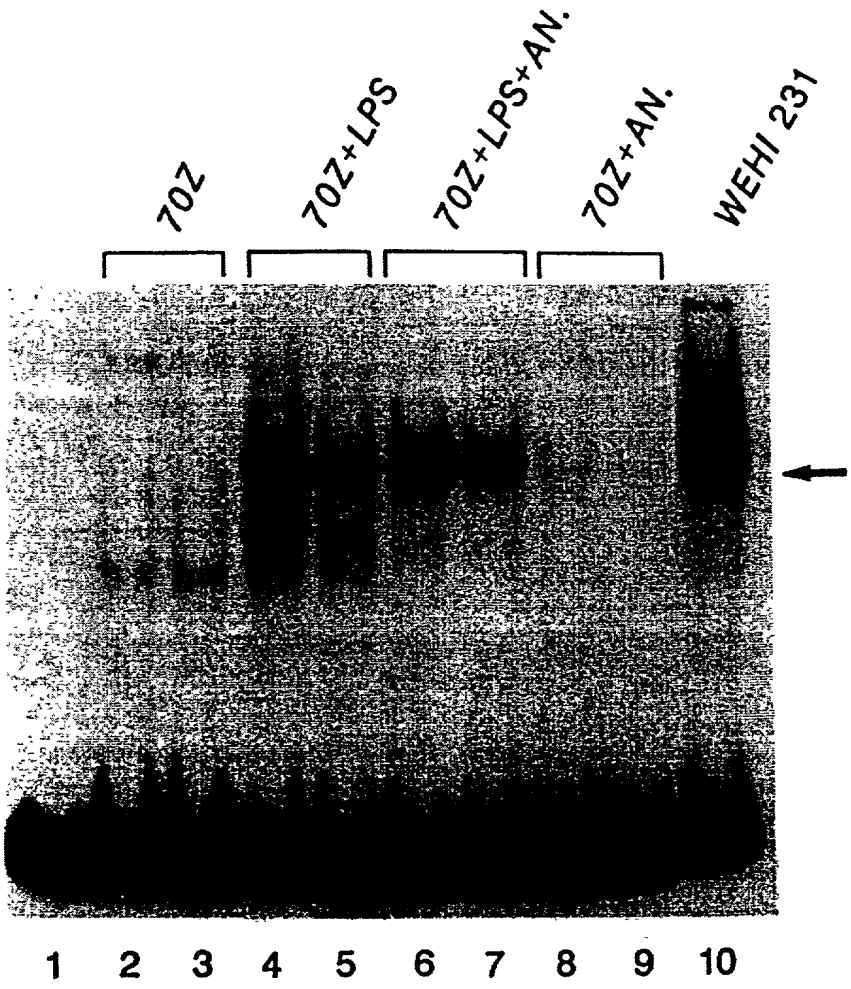


Figure 23A

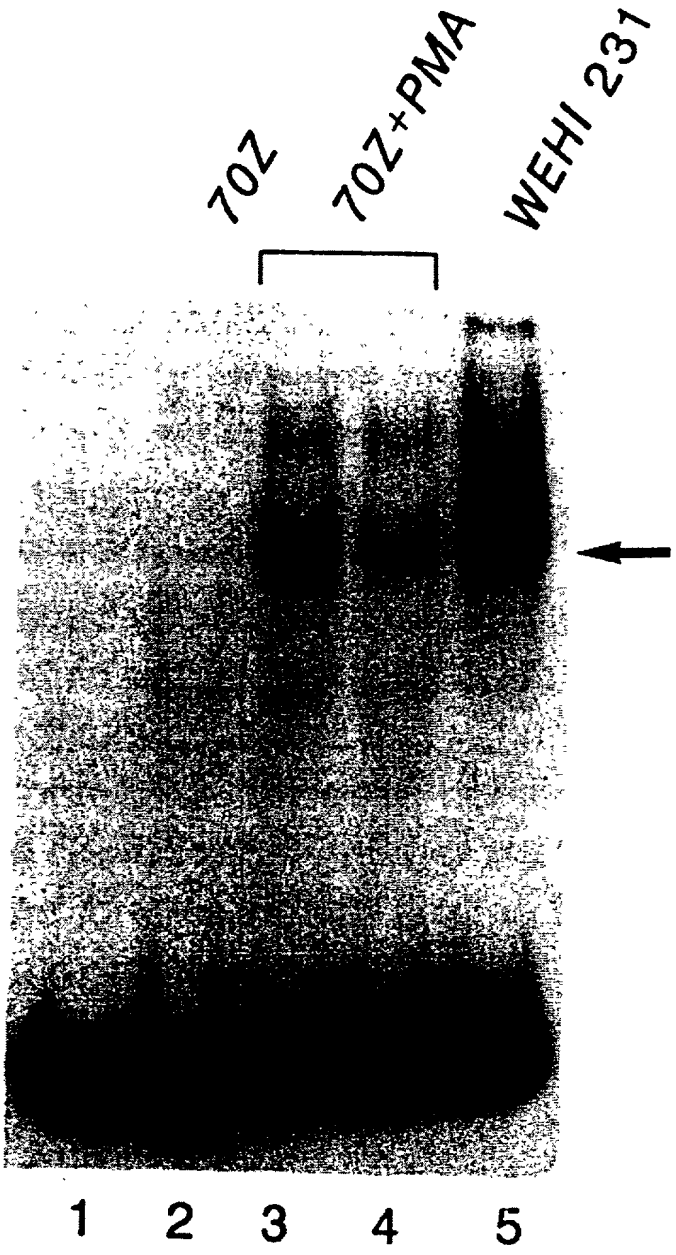


Figure 23B

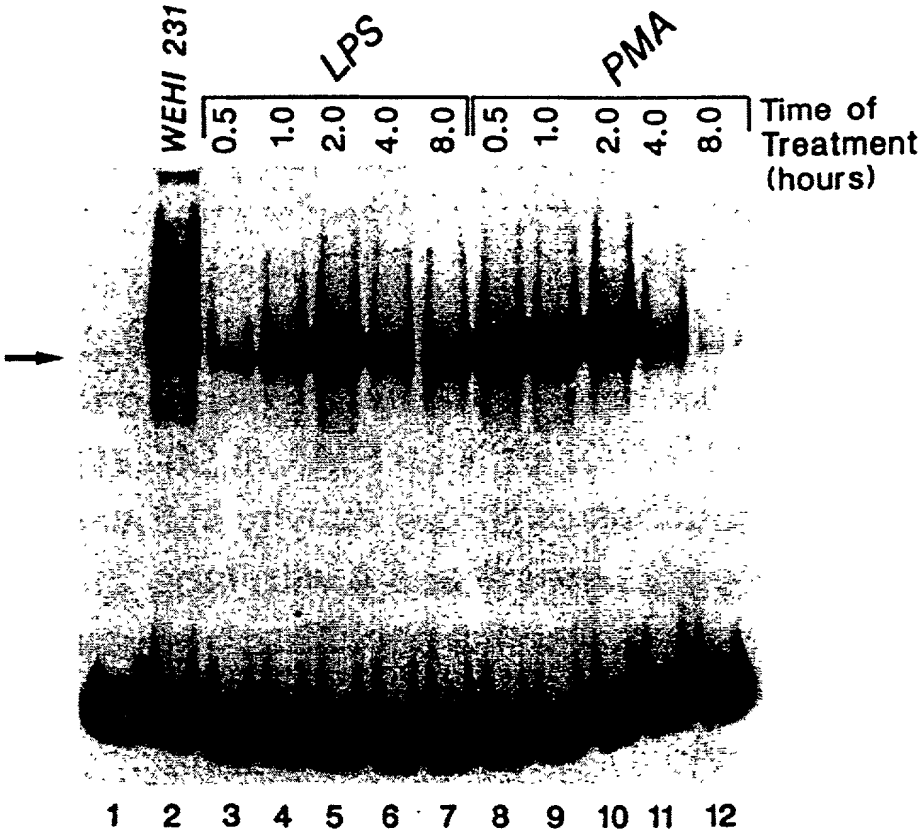

WEHI 231
LPS
PMA
0.5
1.0
2.0
4.0
8.0
0.5
1.0
2.0
4.0
8.0
Time of Treatment (hours)
1 2 3 4 5 6 7 8 9 10 11 12

Figure 24A

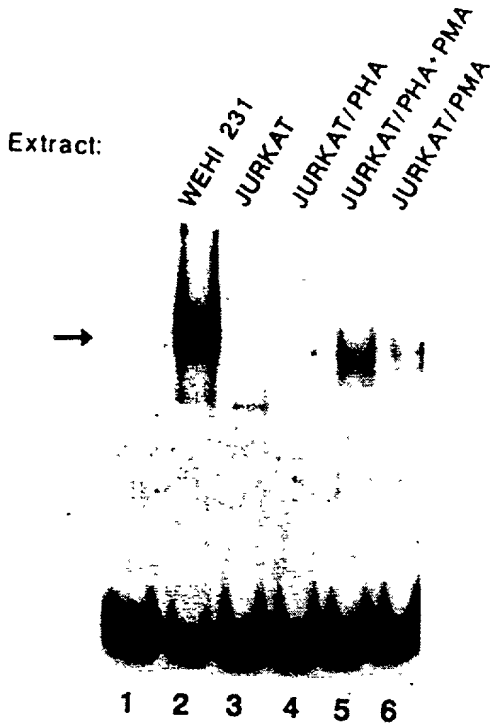


Figure 24B

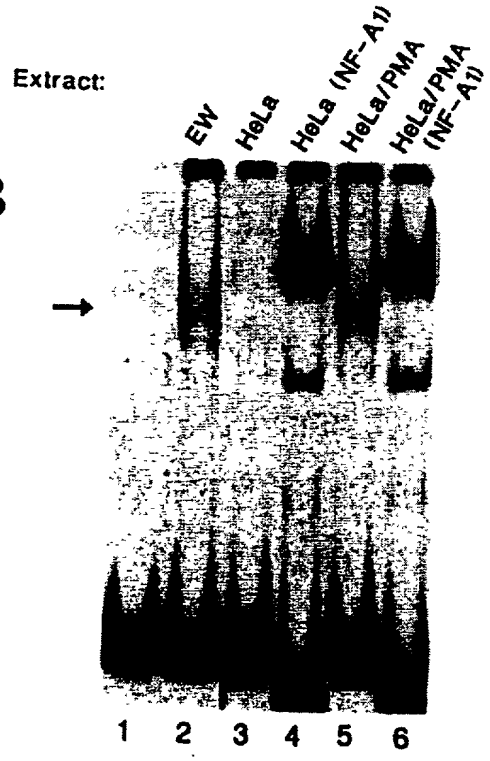
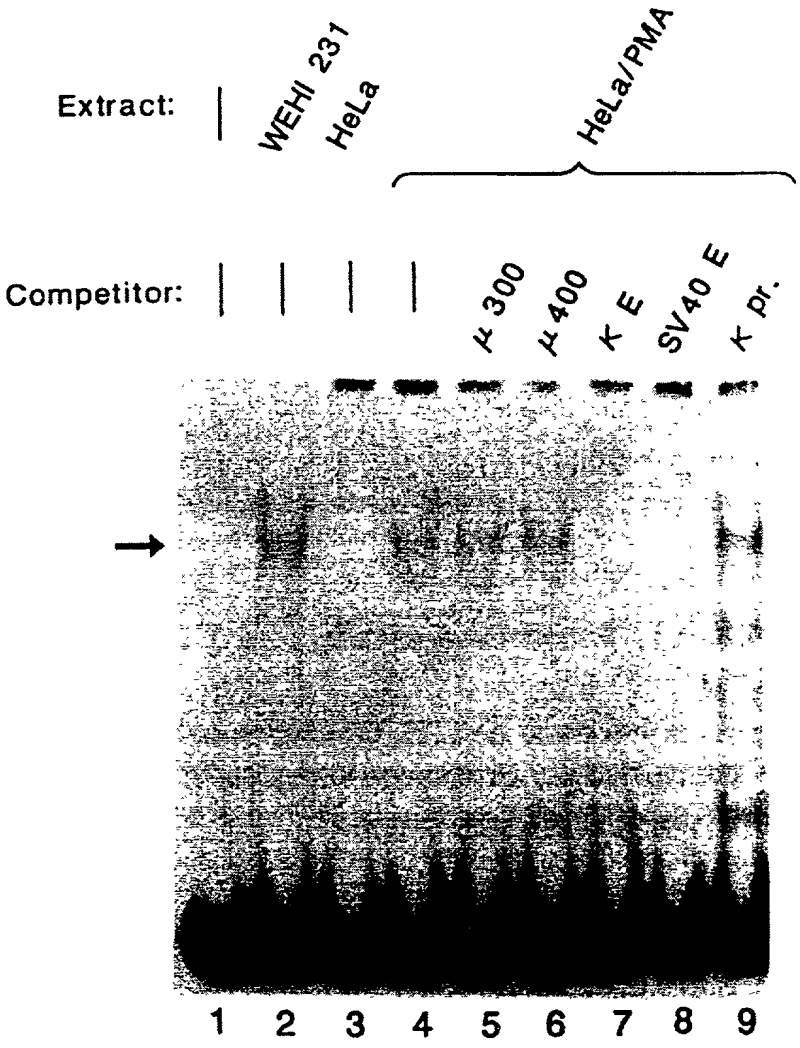


Figure 24C


Extract:
WEHI 231
HeLa
HeLa/PMA
Competitor:
μ 300
μ 400
κ E
SV40 E
κ pr.
1 2 3 4 5 6 7 8 9

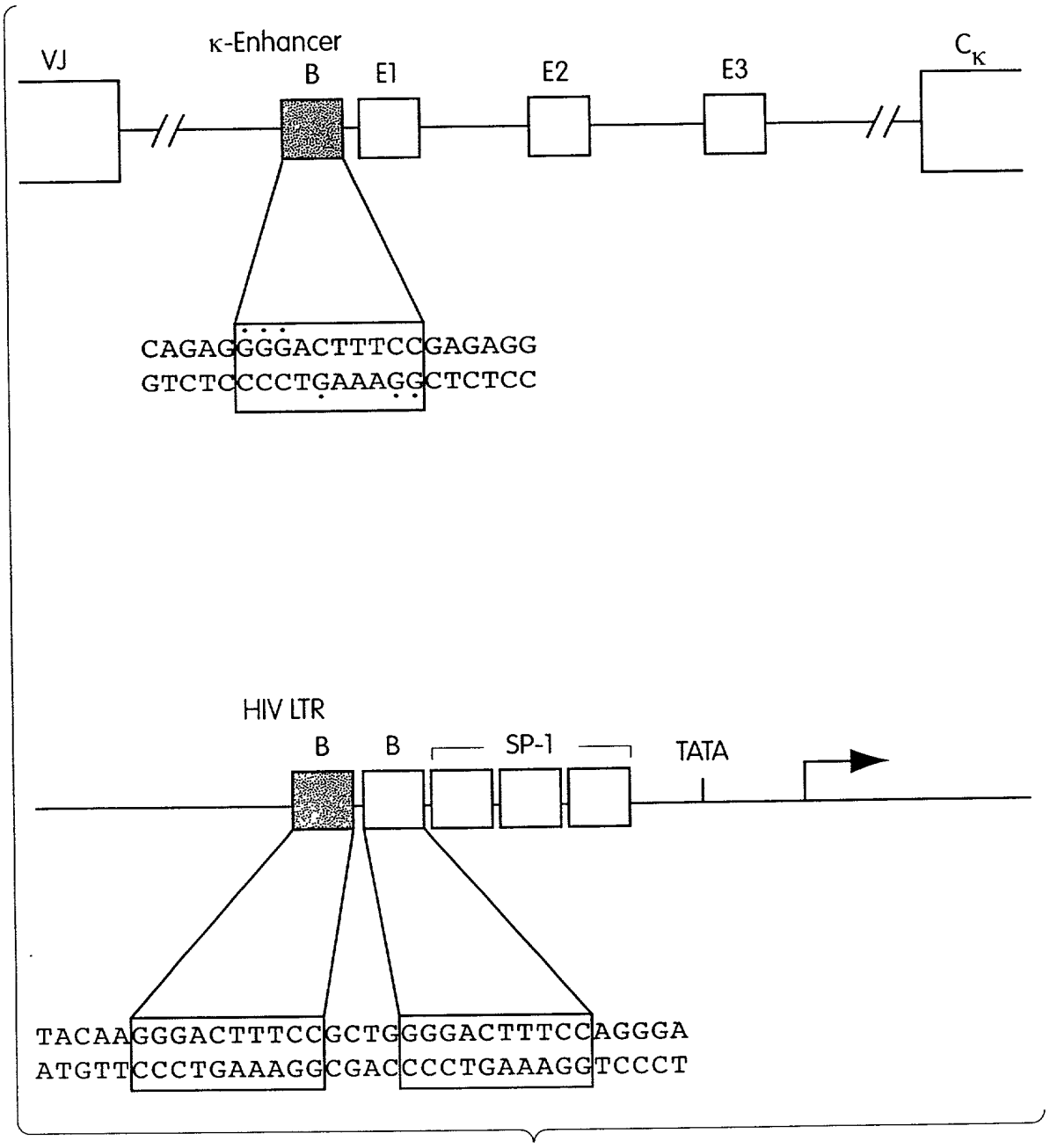

VJ
κ-Enhancer
B
E1
E2
E3
C_κ
CAGAGGGGACTTTCCGAGAGG
GTCTCCCCTGAAAGGCTCTCC
HIV LTR
B
B
SP-1
TATA
TACAAGGGACTTTCCGCTGGGGACTTTCCAGGGA
ATGTTCCCTGAAAGGCGACCCCTGAAAGGTCCCT

Fig. 25

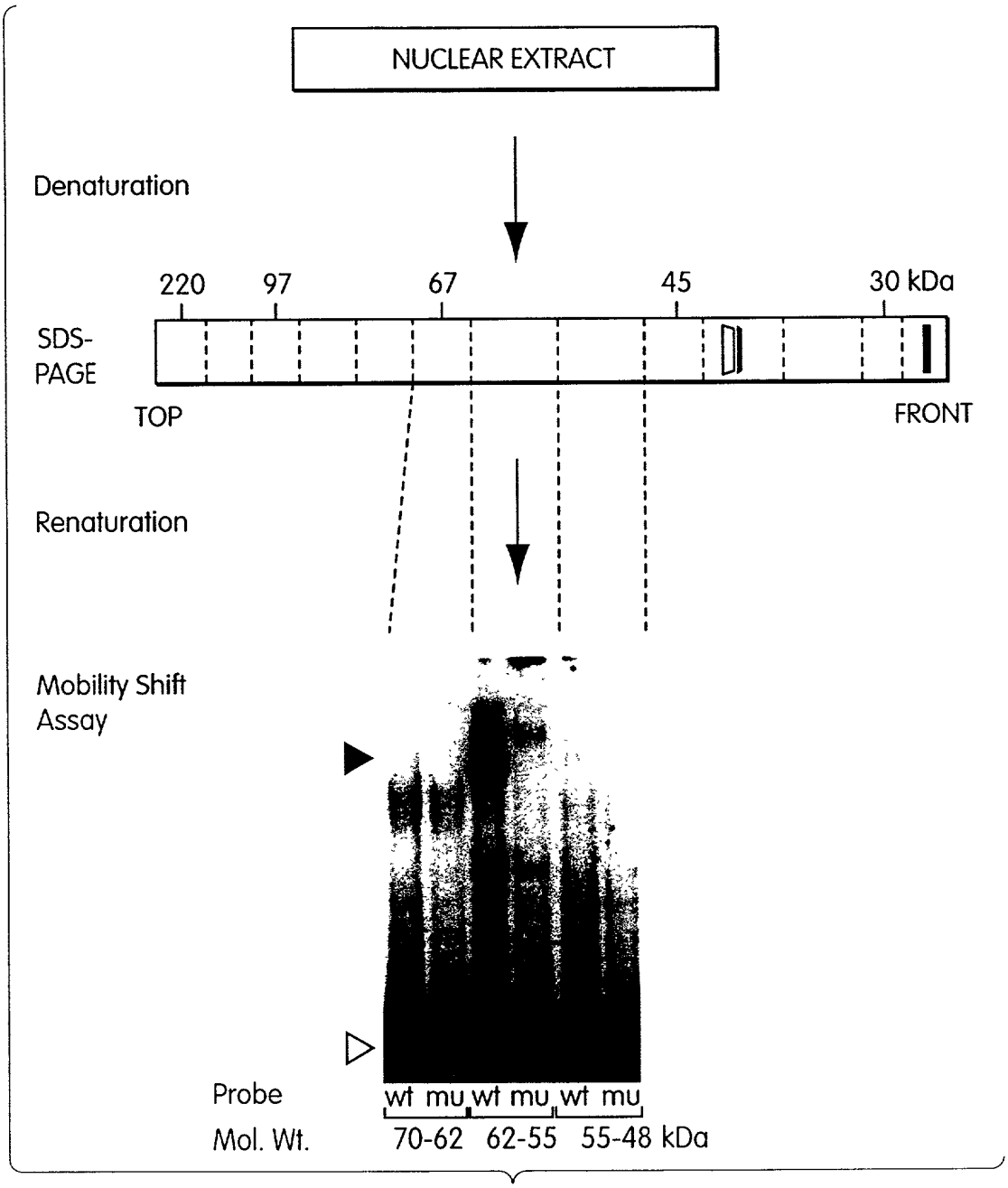

NUCLEAR EXTRACT
Denaturation
220
97
67
45
30 kDa
SDS-
PAGE
TOP
FRONT
Renaturation
Mobility Shift
Assay
Probe
wt mu wt mu wt mu
Mol. Wt.
70-62 62-55 55-48 kDa

Fig. 26A

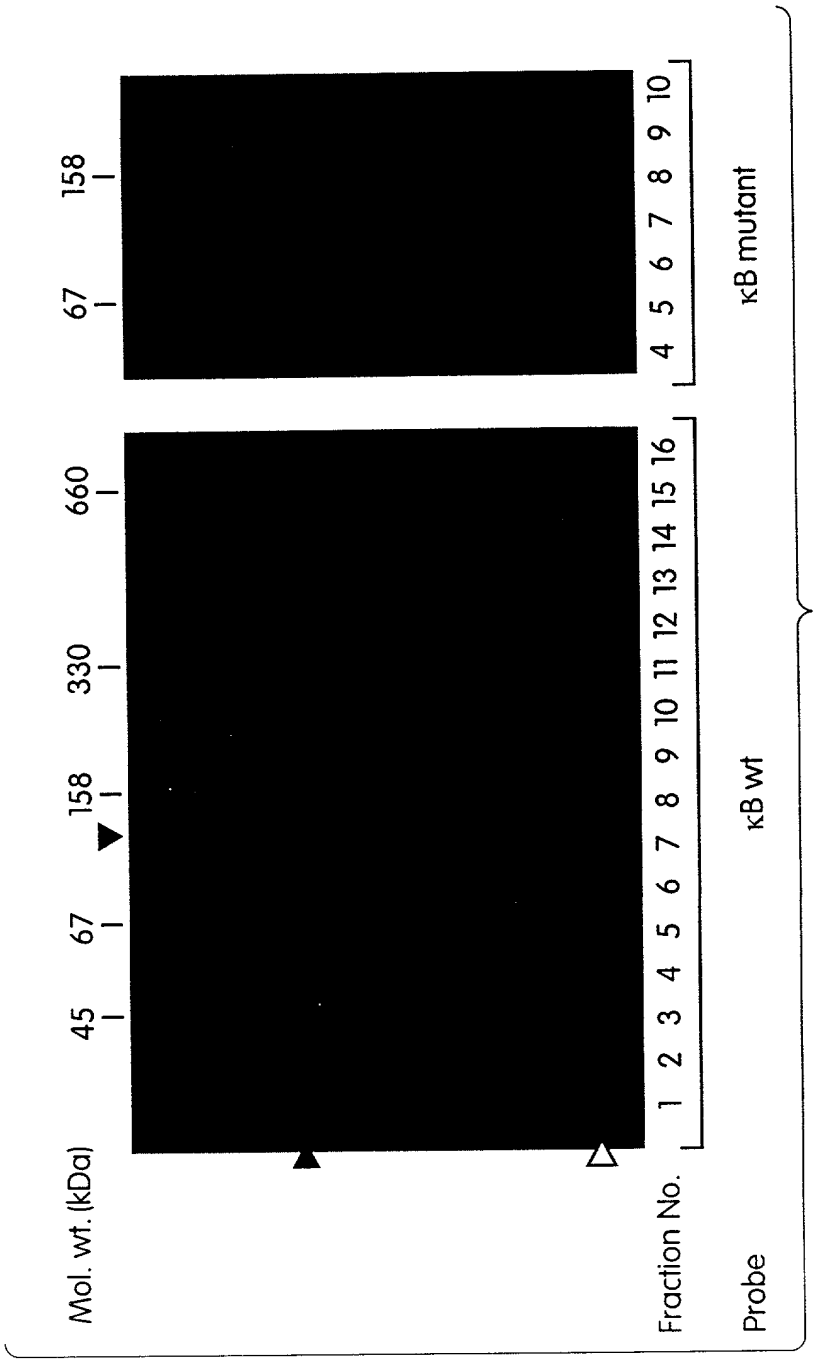

Mol. wt. (kDa)
45
67
158
330
660
Fraction No.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
κB wt
67
158
4 5 6 7 8 9 10
κB mutant
Probe

Fig. 26B

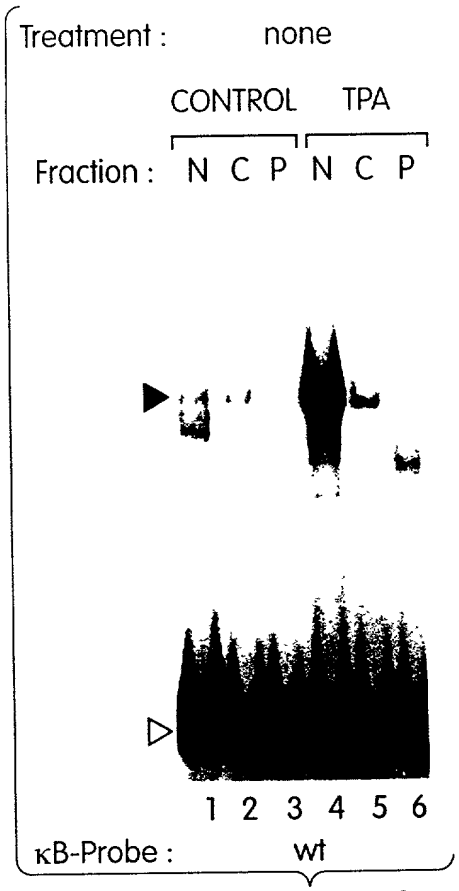


Fig. 27A

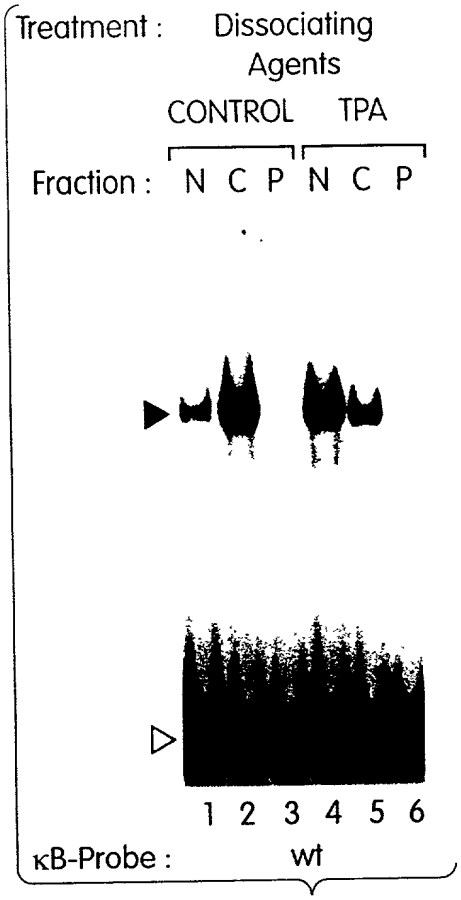


Fig. 27B

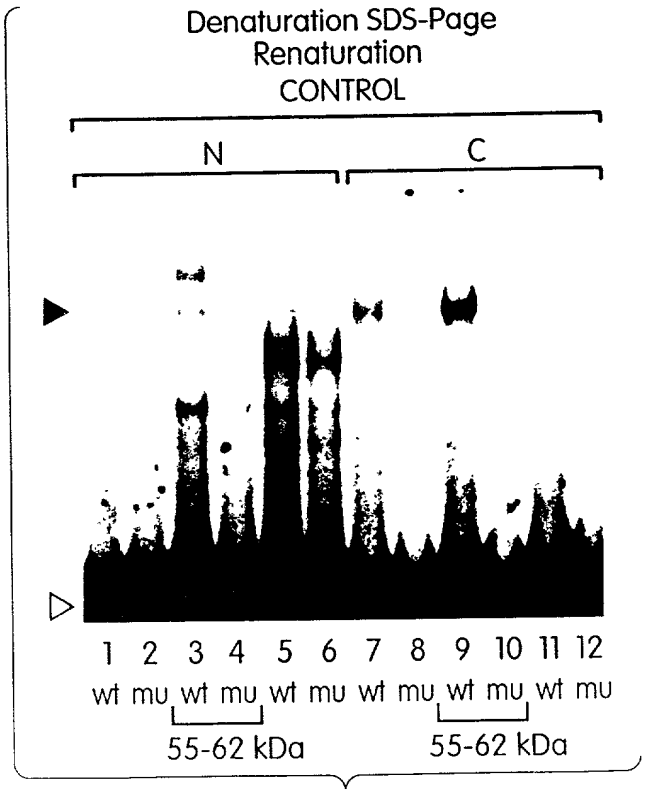


Fig. 27C

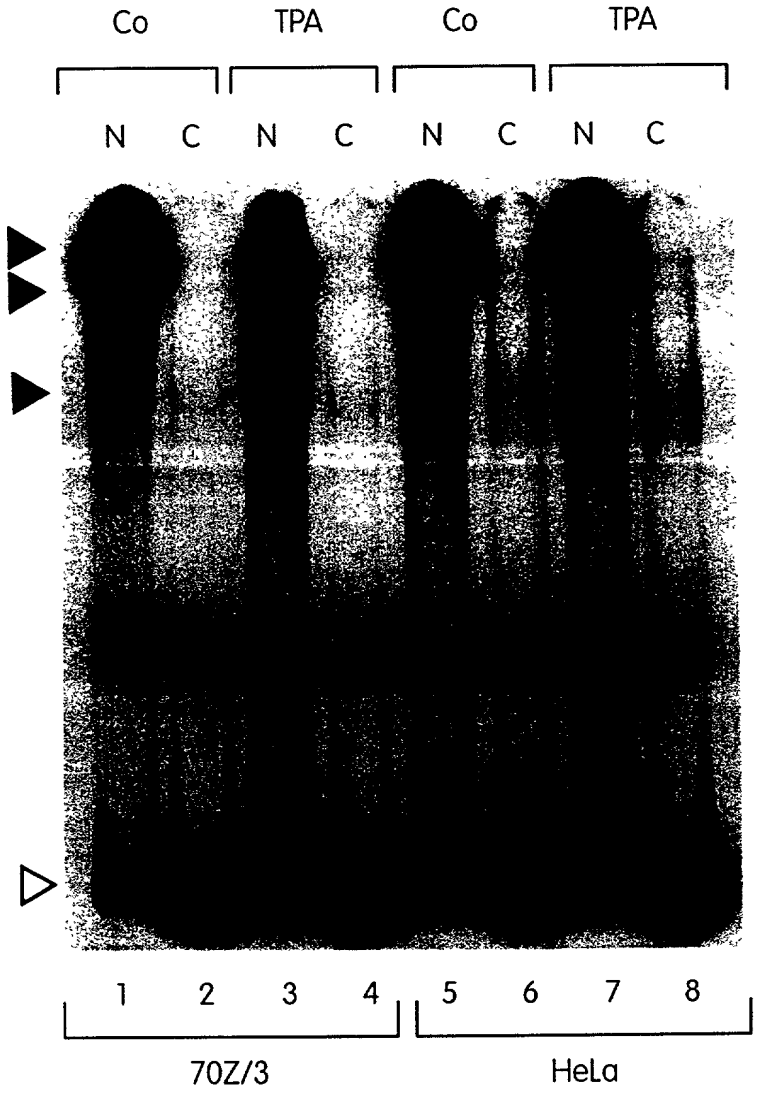


Fig. 28

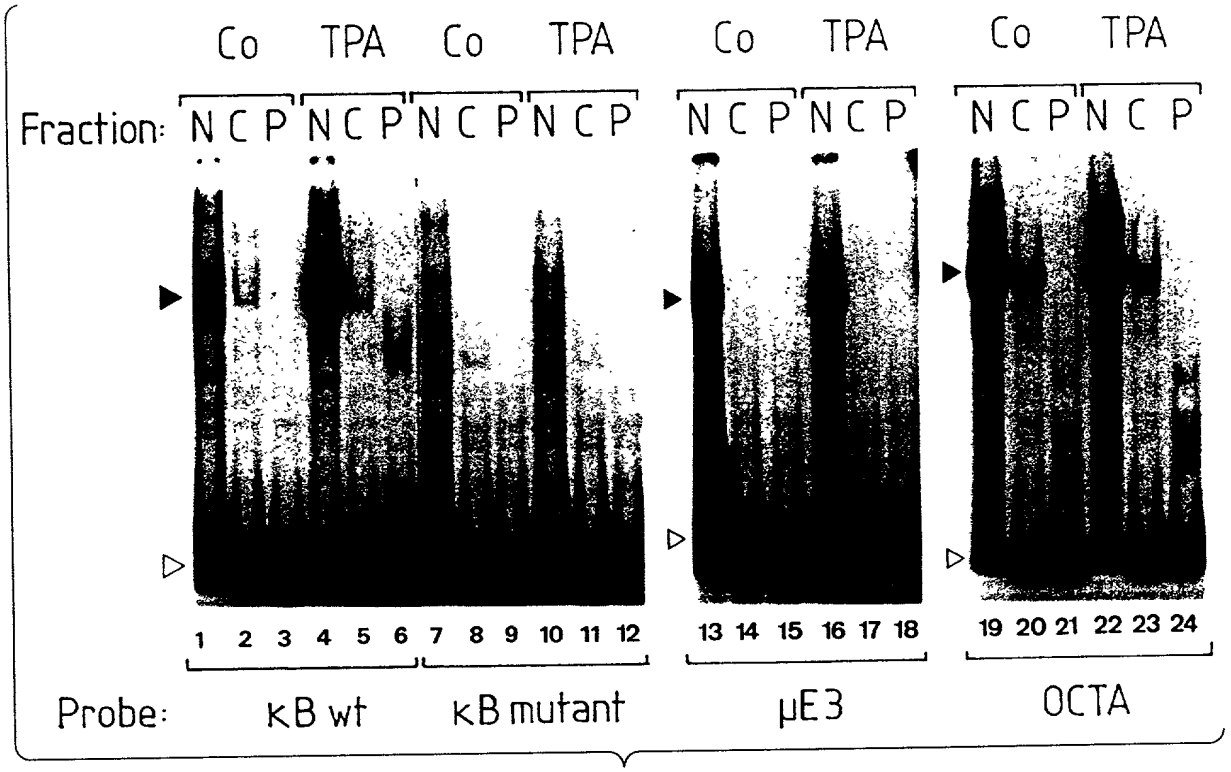

Co TPA Co TPA Co TPA Co TPA
Fraction: N C P N C P N C P N C P N C P N C P N C P N C P
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Probe: κB wt κB mutant μE3 OCTA

Fig. 29

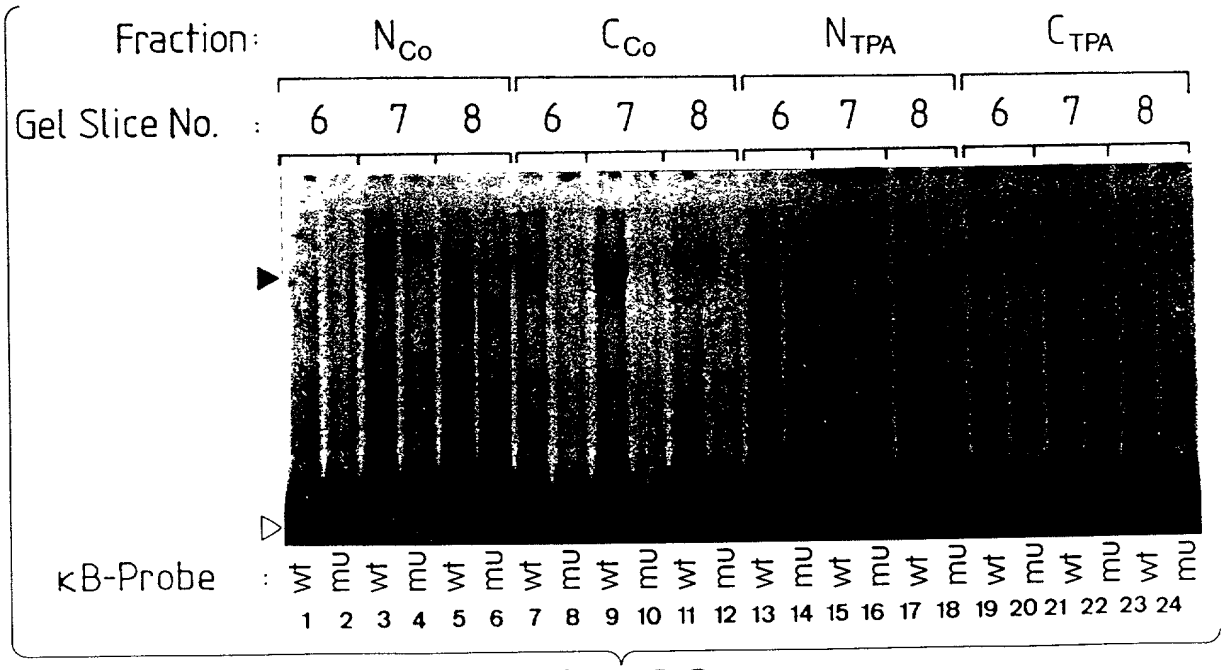

Fraction: N_Co C_Co N_TPA C_TPA
Gel Slice No. : 6 7 8 6 7 8 6 7 8 6 7 8
κB-Probe : wt mu wt mu wt mu wt mu wt mu wt mu wt mu wt mu wt mu wt mu wt mu wt mu
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Fig. 30

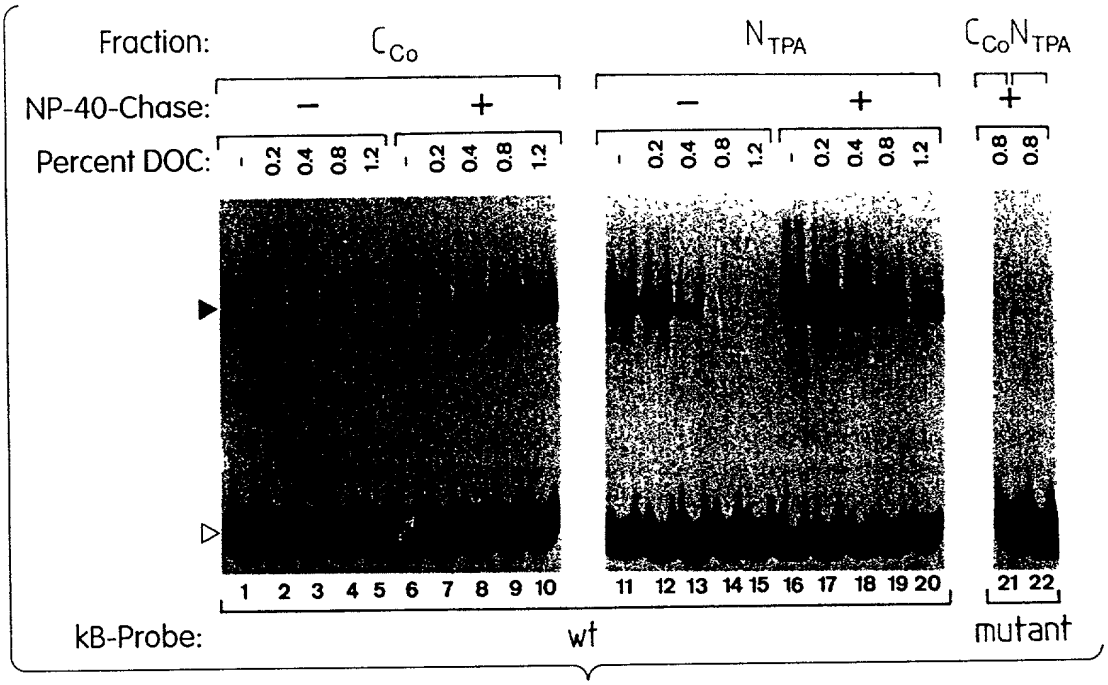


Fig. 31A

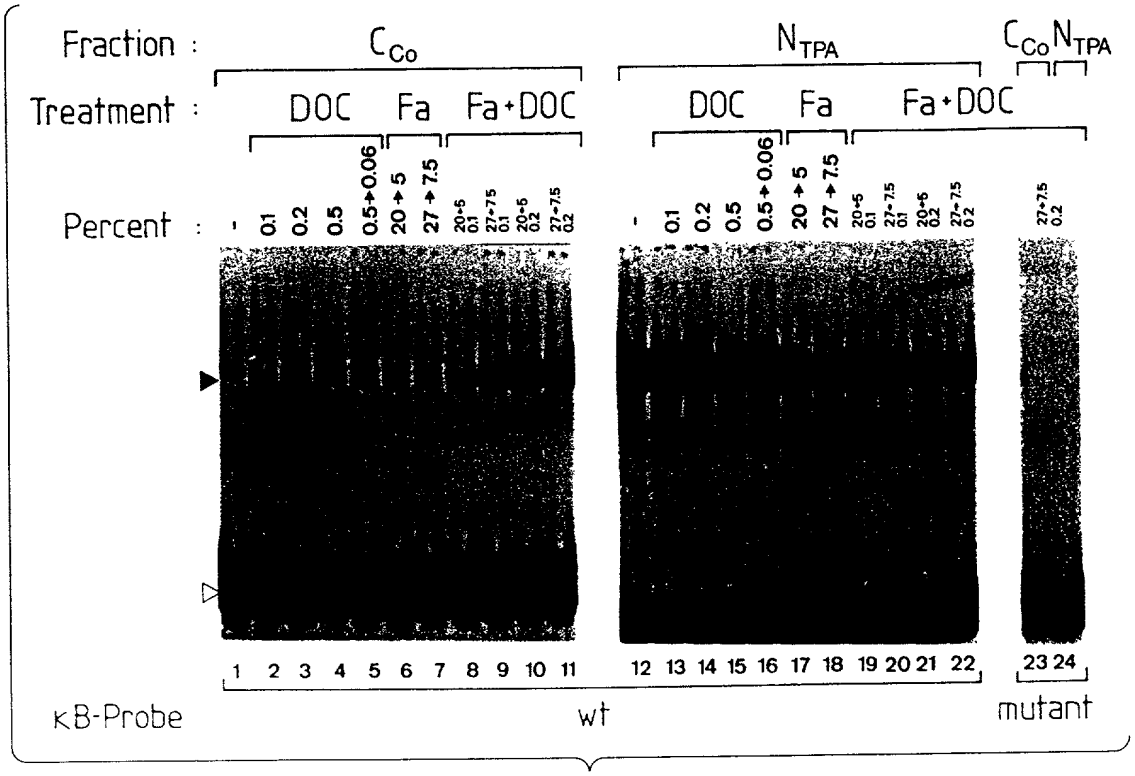


Fig. 31B

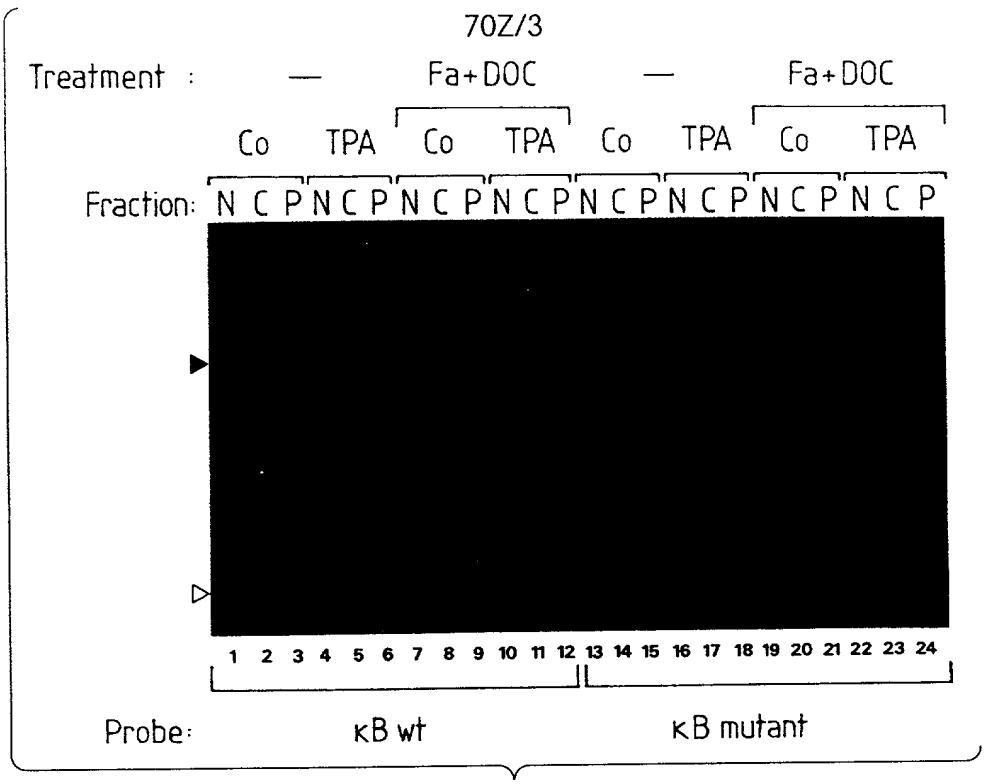

70Z/3
Treatment :
—
Fa+DOC
—
Fa+DOC
Co
TPA
Co
TPA
Co
TPA
Co
TPA
Fraction:
N C P N C P N C P N C P N C P N C P N C P N C P
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Probe:
κB wt
κB mutant

Fig. 32

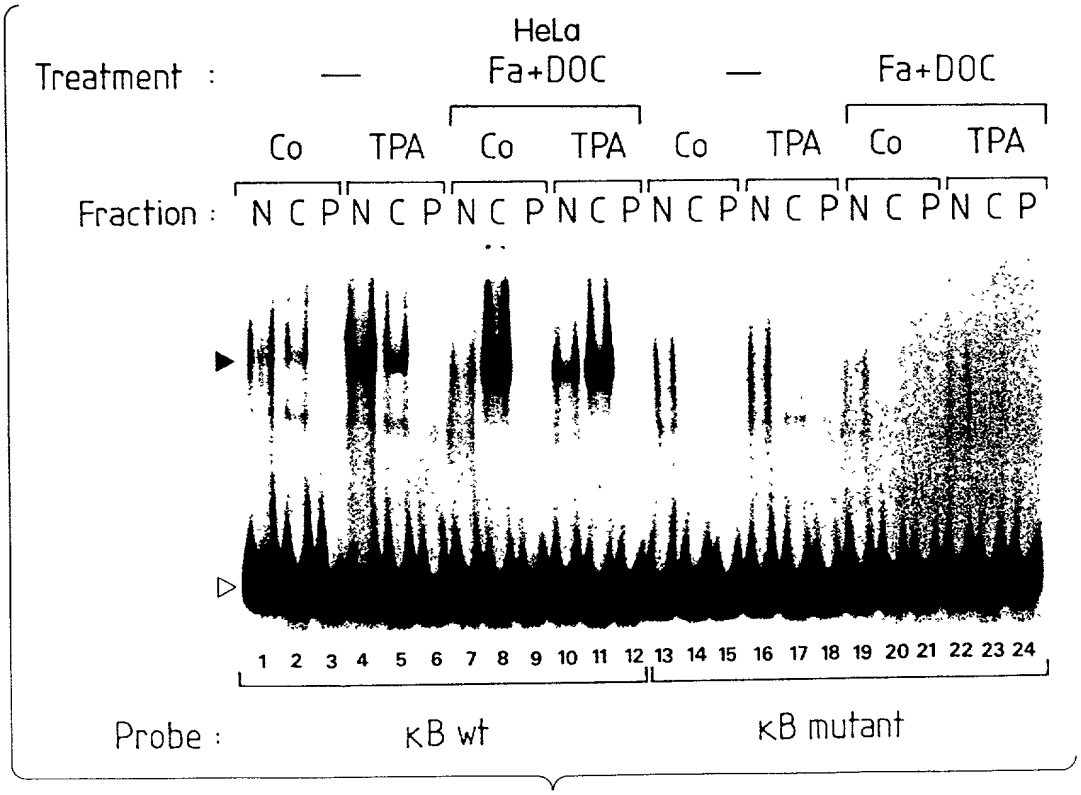

HeLa
Treatment :
—
Fa+DOC
—
Fa+DOC
Co
TPA
Co
TPA
Co
TPA
Co
TPA
Fraction :
N C P N C P N C P N C P N C P N C P N C P N C P
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Probe :
κB wt
κB mutant

Fig. 33

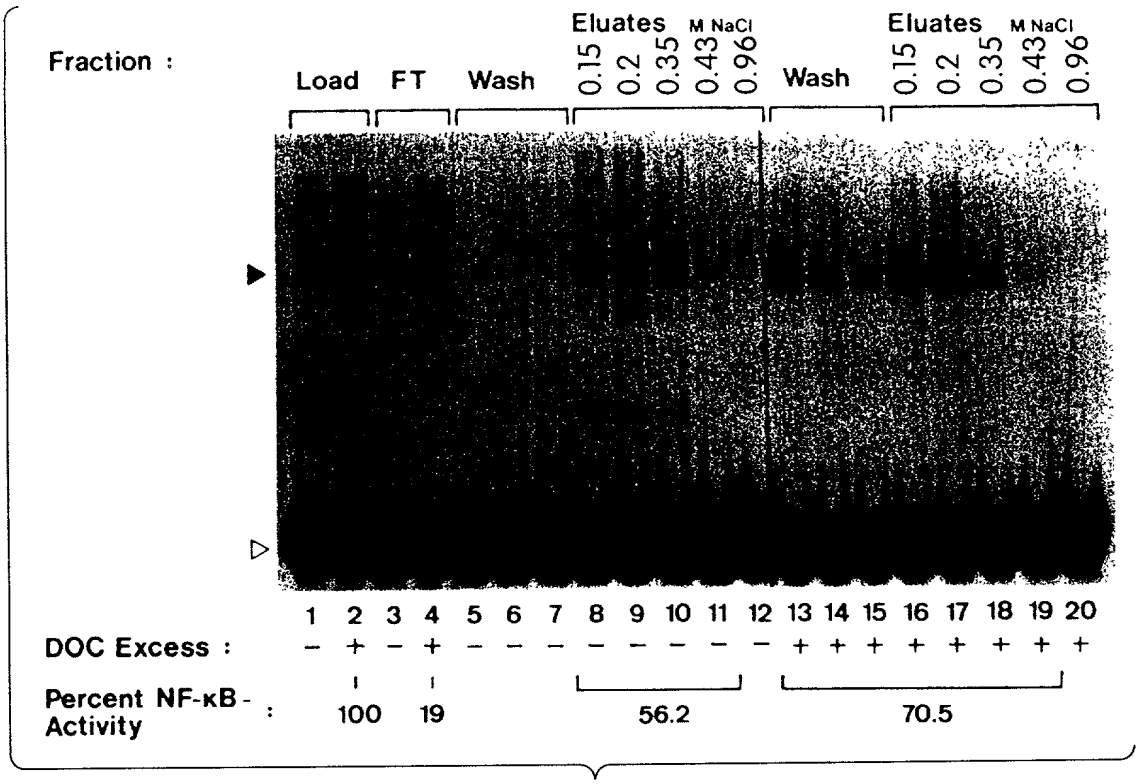


Fig. 34A

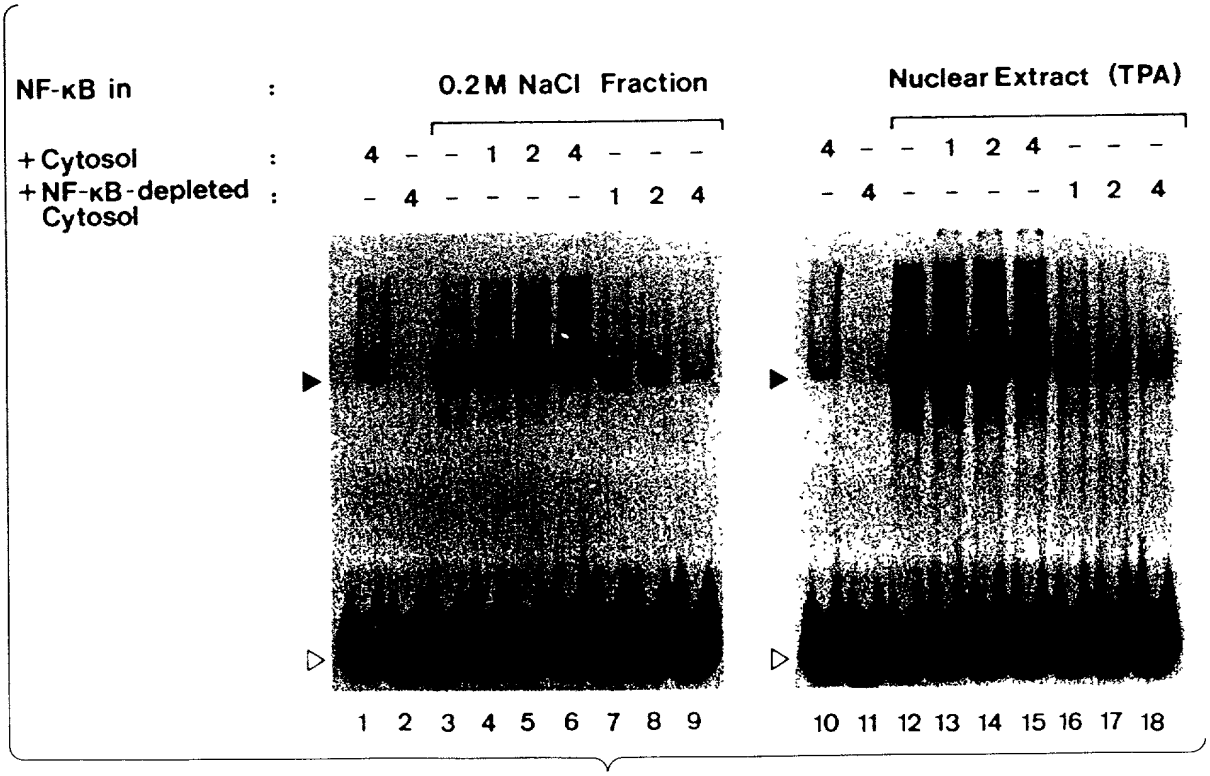


Fig. 34B

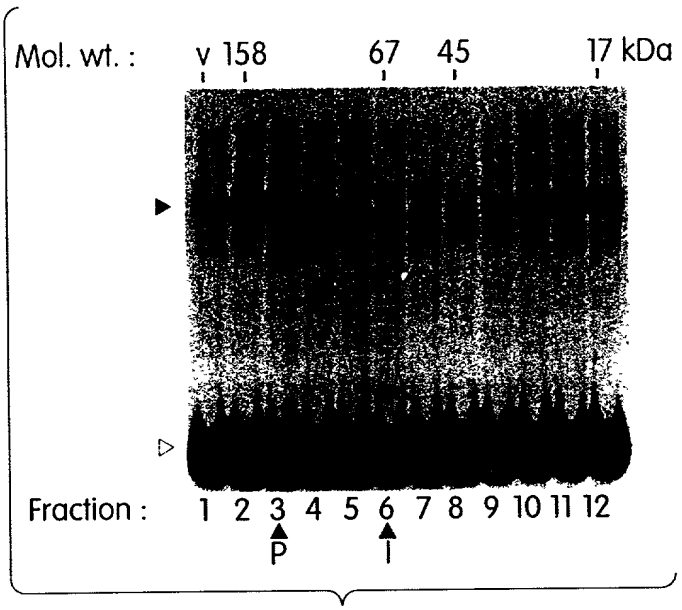


Fig. 35A

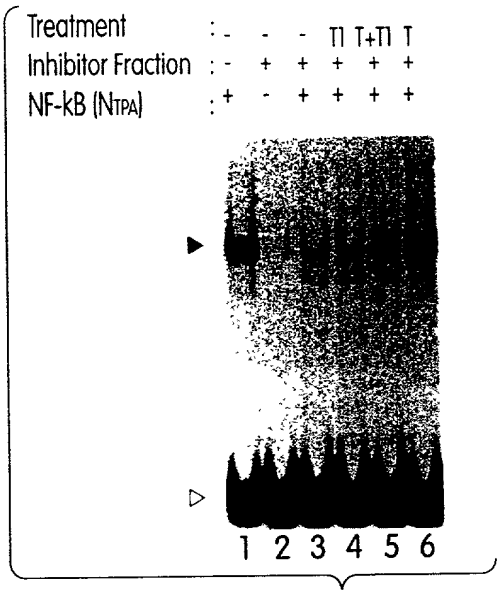


Fig. 35B

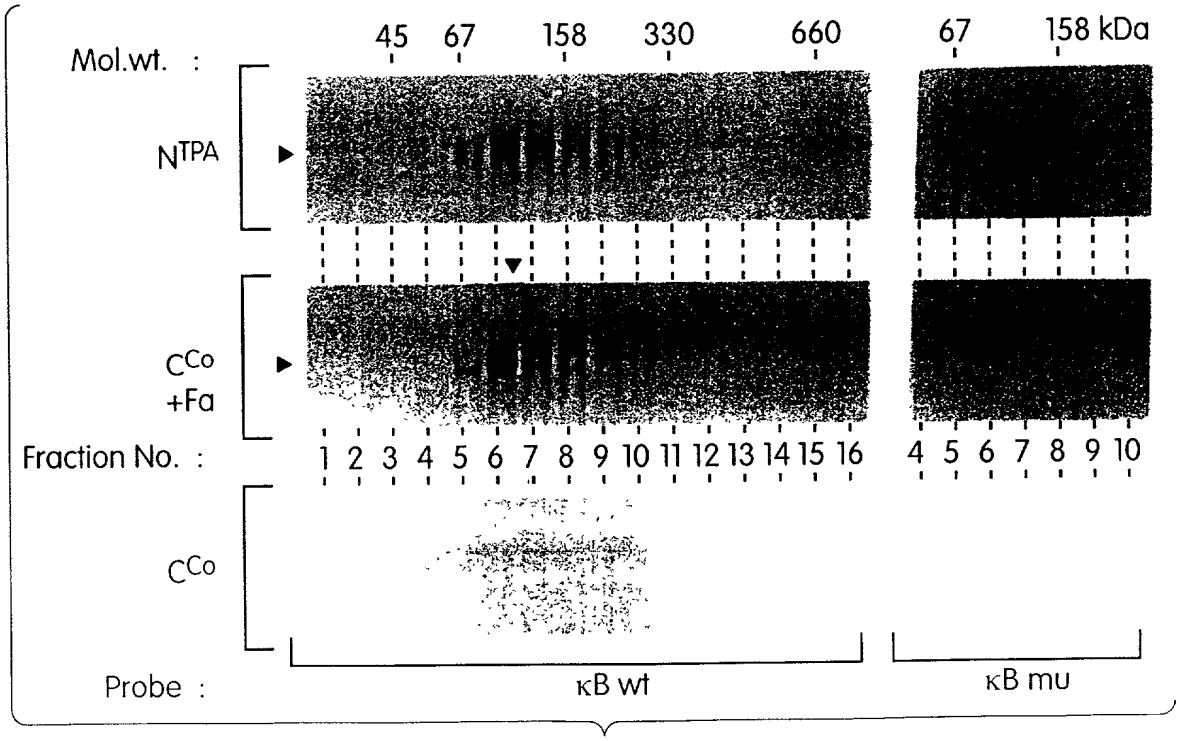


Fig. 35C

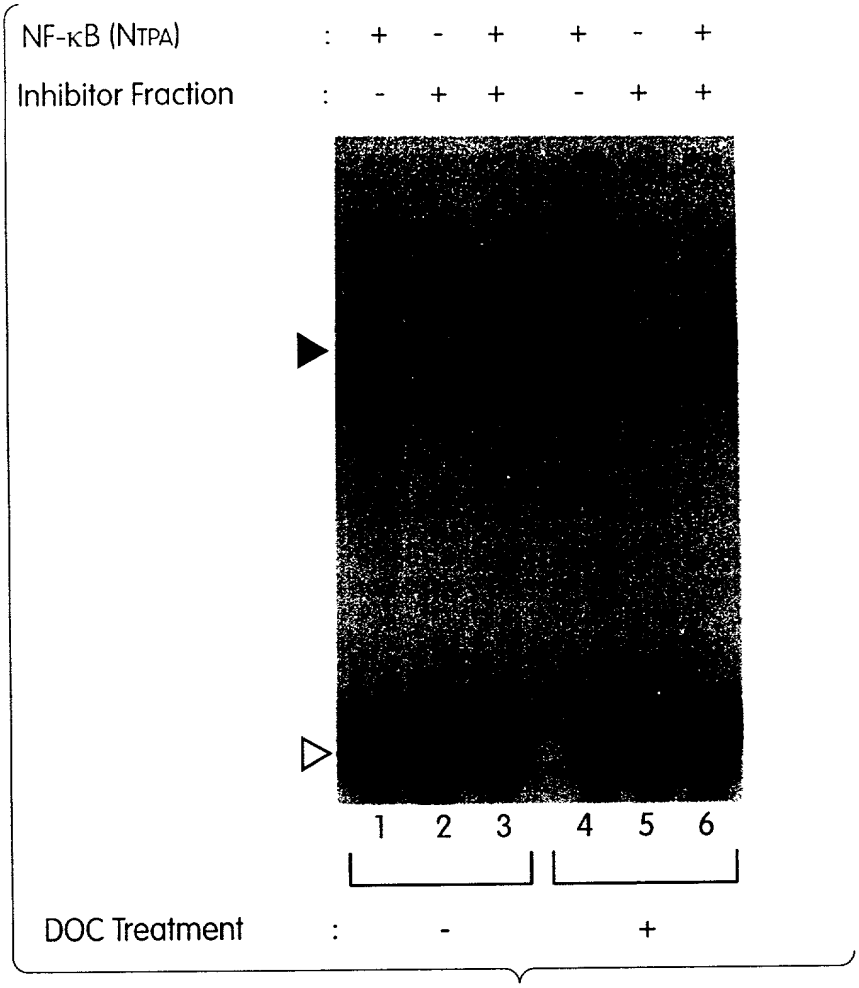


Fig. 36A

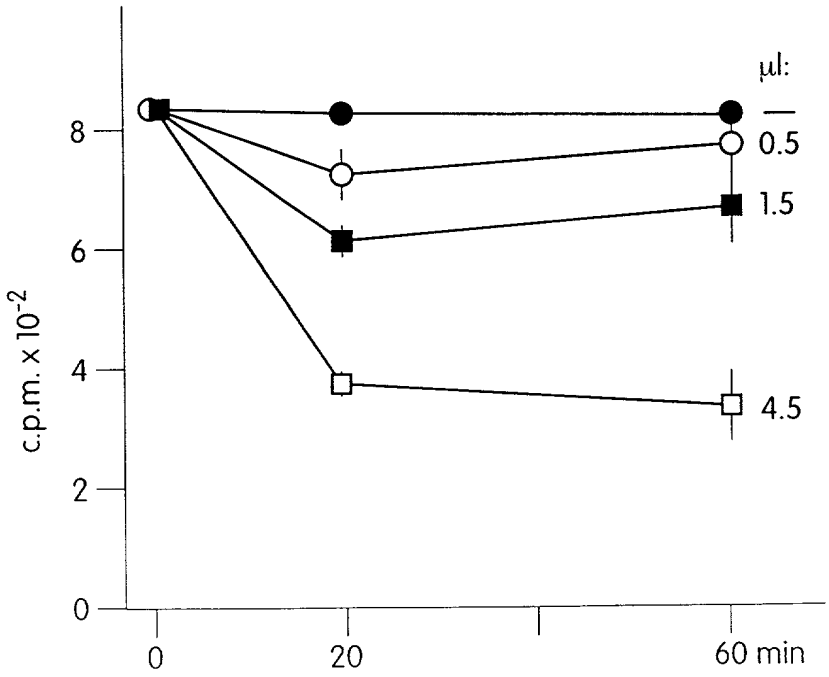


Fig. 36B

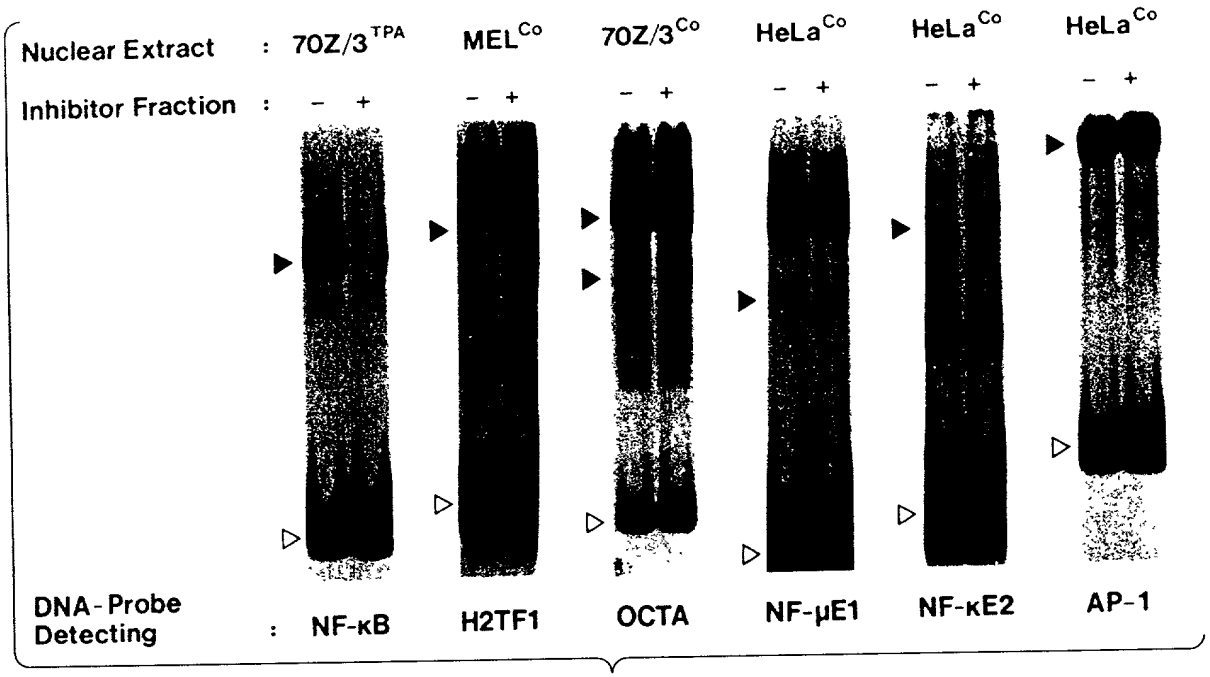


Fig. 37A

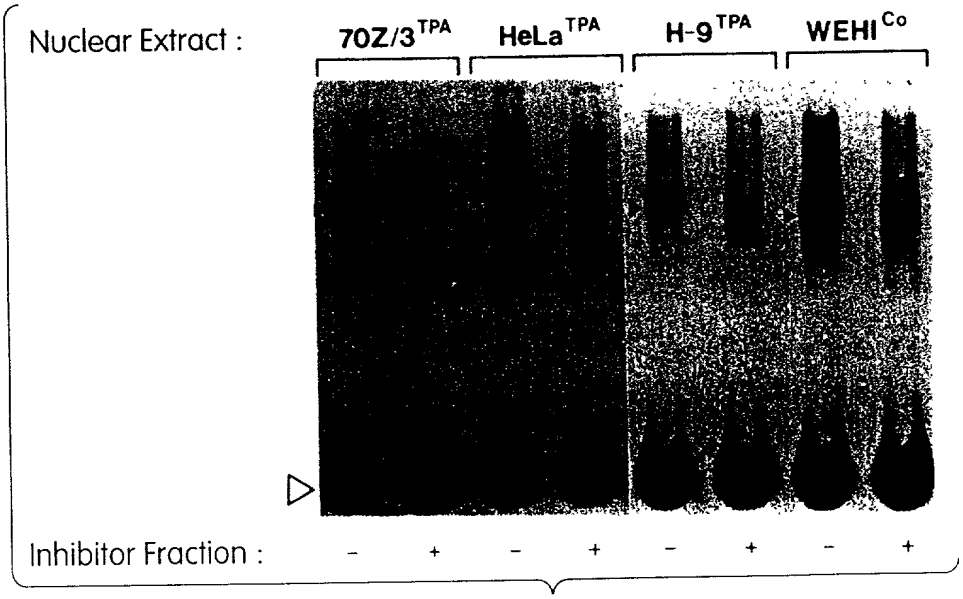


Fig. 37B

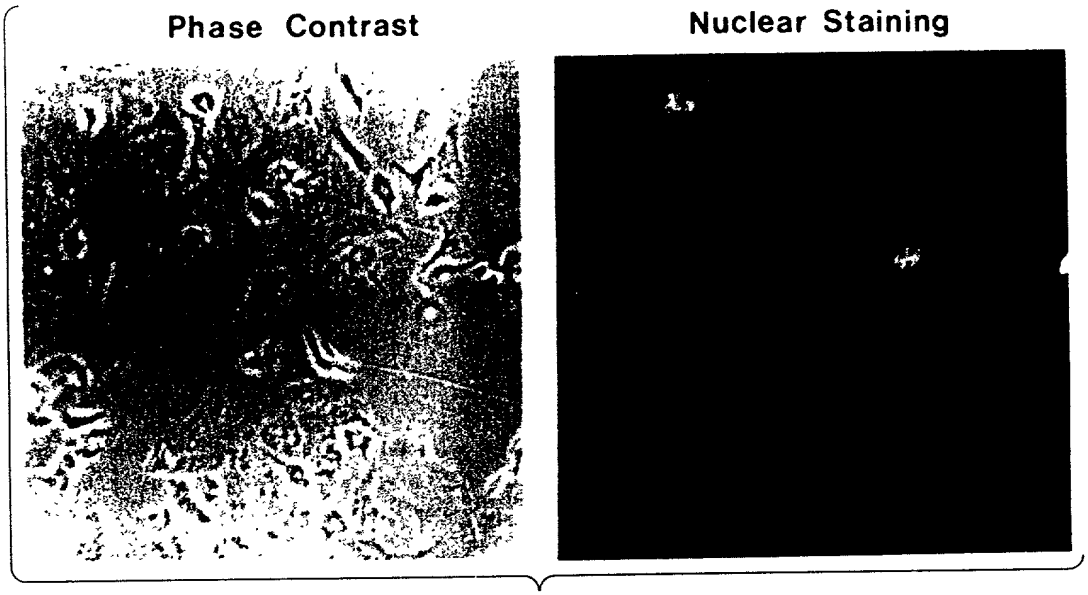


Fig. 38A

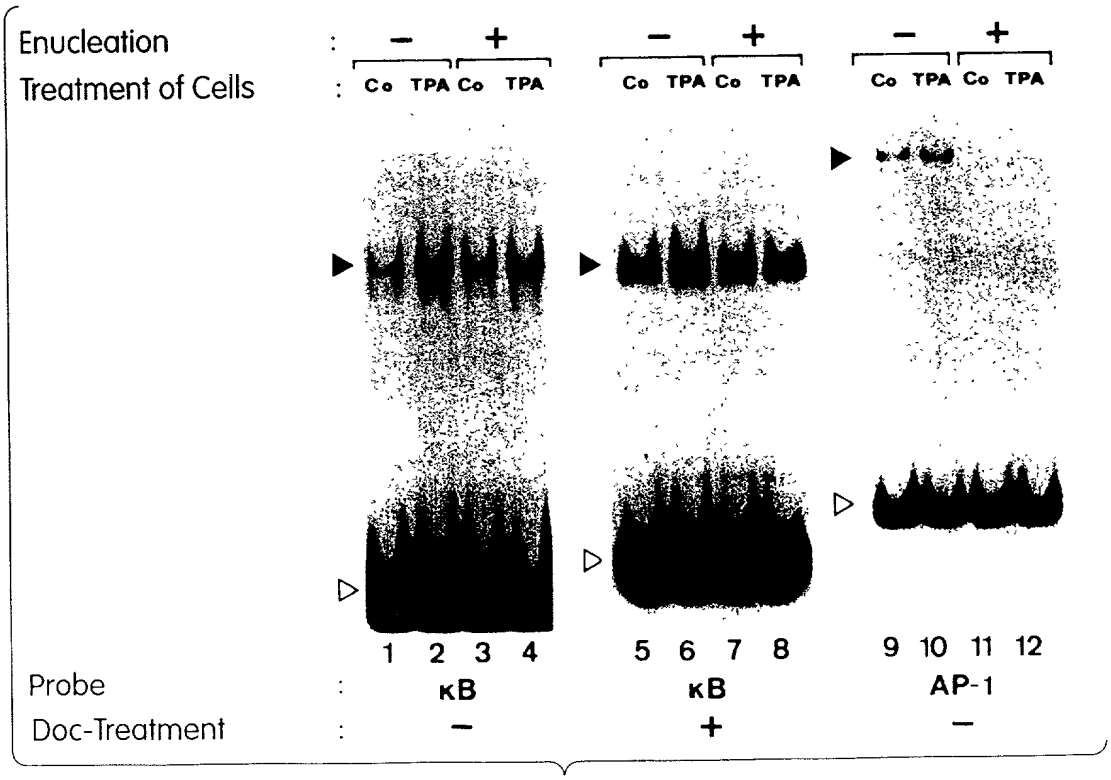


Fig. 38B

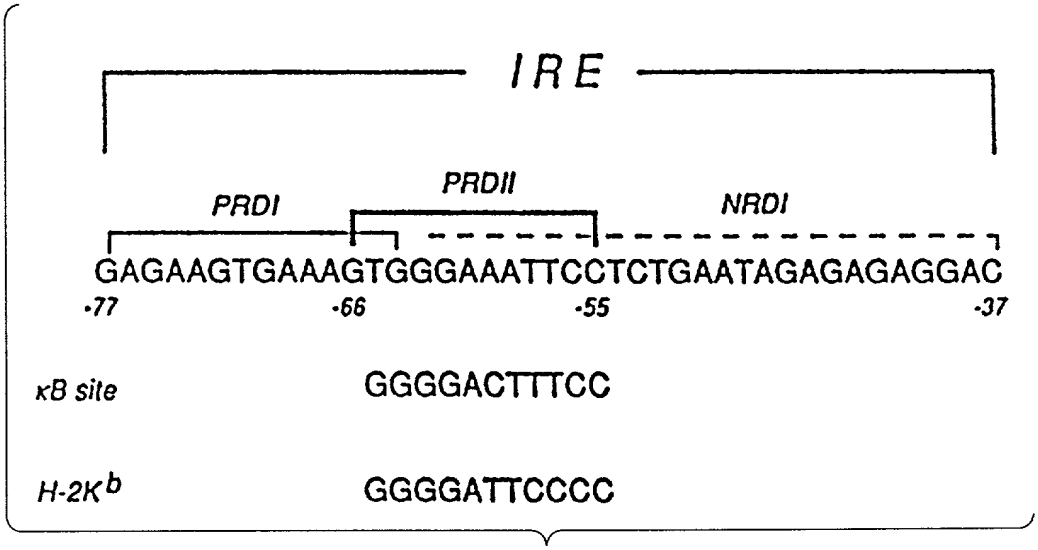

IRE
PRDI
PRDII
NRDI
GAGAAGTGAAAGTGGGAAATTCCTCTGAATAGAGAGAGGAC
-77
-66
-55
-37
κB site
GGGGACTTTCC
H-2K^b
GGGGATTCCCC

Fig. 39

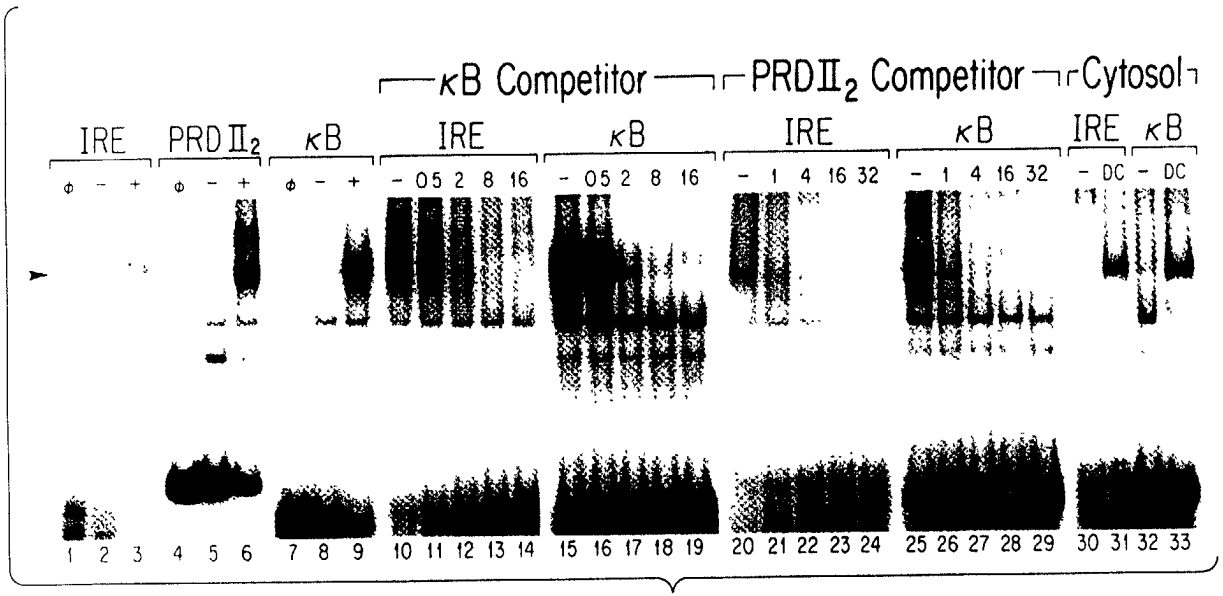


Fig. 40A

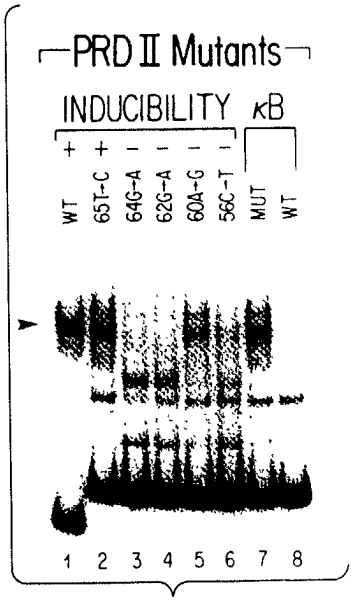


Fig. 40B

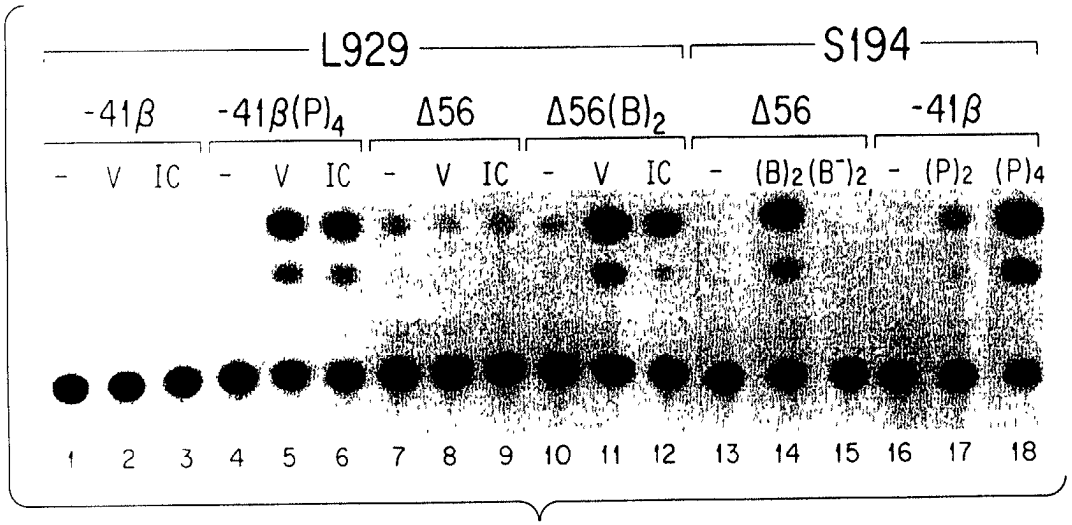


Fig. 41A

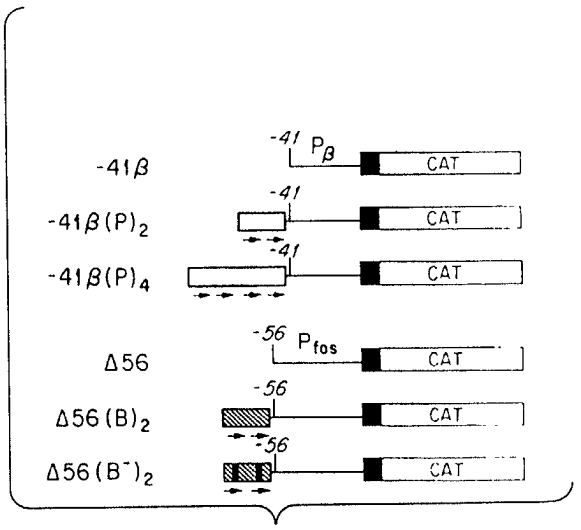


Fig. 41B

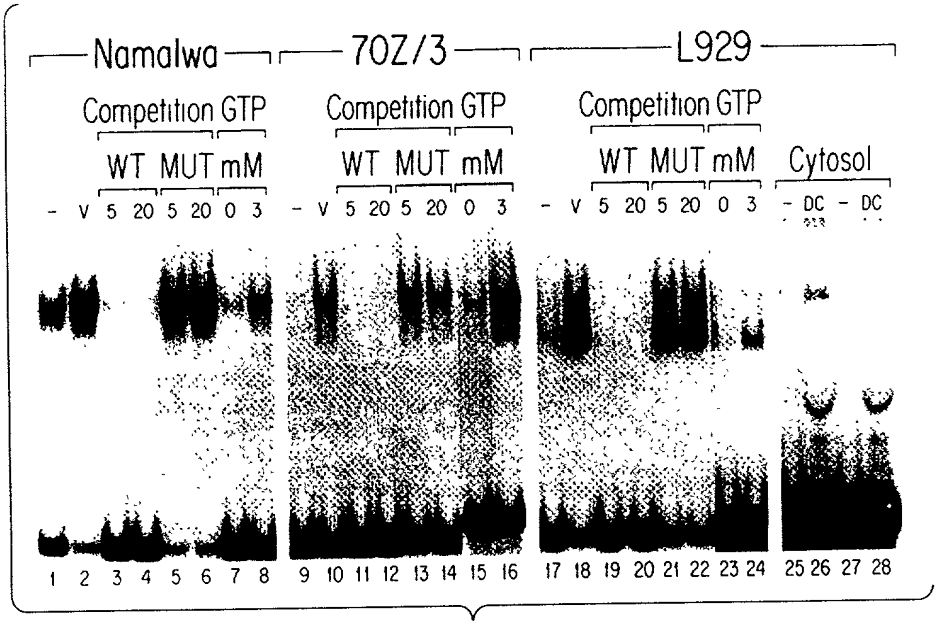


Fig. 42A

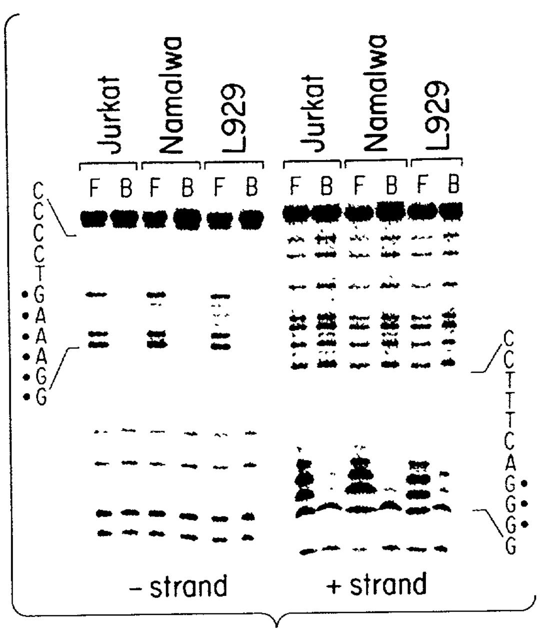


Fig. 42B

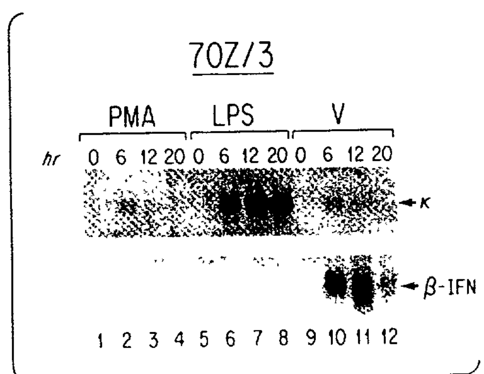


Fig. 42C

Figure 43


AACATTGCAACCTTATAAAAAATTAACTATTTCGACAATGCCGCAGAAGGAAATTCTGTGTTTAGGTGCTGGTGGG
AAAACACTATCTCCAGCTTGTAGGTTTGAGCATCACCAGAACCACTTGATGAAATCACACACAGAACAAGTAGAGG
AGGCAACTGTGAATCGTGGGGCTATAAAGCCATCAAGGGATCTGATGAAAGAACCCGCGAGACGAACCCCCCCACC
CCCCACAACAGGATCGGCACCCCAGAGTTCAACAAGTGGCTGACTTTGTTAAAACACTACGTGGGAACCCATAGTC
CCGGATCAGTAGTTGCACAGCCCCCTCCCCGACAGACTACACCGCTGTTTGCTGATCCTTGCCCACCCCATGCTCT
CCTCCCAGGCCCCCGTTCTGCTCCTCTGTCCTGCGGCGCTGGATTGAACCGCACACAAGTCTGCATCTGGCACGAA
TTCTCATGGGAGCCACGTCATGAGGTACGTGGTTGCACACCTATCACAAGAAGTCTTGCAGTTCTGACTCTCCTGA
GCTCGGTGGGAAAGTCTGGATAGTACCTCCCCTCTCCTGCCACAAAAGCAGCCCTCACATTCACAAGTTTCCAAAG
CAGGTCTATTGAGTTTCTCTTCAGAGCGAGCCTTTGTCAAACACACCTGGAGGGGGGAGTCTCACCTCTCCCCAGC
AACTCAGATCAGTGCCTTATTTTTAATGCTCCGGCCCAATCCTGAGGTGCTGCTGGGTTTGTGGGCTGCGTTTTGT
TGAACCTCCCCCCTCCCCTCCCAACGCCCTGGCATTTGCAATTAAAACTGGGATTCAAGGGCCAAATTCAAGCCCA
GAGTGAGCAGTAGGATGTGGAGCTCAAAGCAGAGTTGCACCTGCTGACCCCCAGCCTGAATTTGGTTCACCCAGAG
ACTACAAGTCAGAAAGGCATGTTTAGAAAGAGGCATGCTAAGGACTGATGGTGGAACGGCCAATTTGTCCCCACCA
GCACAGTGGGGAAGGCTGGACAGAGAAGGAAGAGAAGGATCCATAGAGATGTGAACCAGAATCAGTCGTGTTGAGC
TCTGGGTATATCACTACATGTTTAACTCTTGCAAGACCGTTTGCCCAGGGCTTTGGTACCACAGGGTTAGAGTTAC
ATTAACCACAACCACCAGAGAGGAACTGAGGTTTATGACCCCCCCCCCCCCAAAGGTTAGATTTCTGCCGAGTATA
M T P P P P K V R F L P S I
AAGGGGGGGGAAGGGGGGGGTCCTTGGTTCATTTCCCTTCACTGTGTGACCGAAGTTTTGCTTTTATTTGTAAACA
K G G E G G G P W F I S L H C V T E V L L L F V N I
TCTTGAATTACCCGTCGTTTTCCAGTCTTCATCGTGCTGTTGTCAGGCCACTGGAGGGAATTCCCCGTCTCGGAAC
L N Y P S F S S L H R A V V R P L E G I P R L G T
GCCGCCGCCAGCACCAGCAGCCGCGCCGCGCCGCCCCGCCAGCTCCGCCGCCATGCTCAGCGCCCACCGCCCCGCC
P P P A P A A A P R R P A S S A A M L S A H R P A

Figure 43 (continued)

GAGCCGCCCGCCGTGGAGGGCTGCGAGCCGCCGCGCAAGGAACGGCAAGGCGGGCTGCTGCCGCCCGACGACCGCC
E P P A V E G C E P P R K E R Q G G L L P P D D R H

ACGACAGCGGGCTGGACTCCATGAAGGAGGAGGAGTACAGGCAGCTGGTGCGGGAGCTGGAGGACATCCGCCTGCA
D S G L D S M K E E E Y R Q L V R E L E D I R L Q

GCCCCGCGAGCCGCCCGCCCGGCCGCACGCCTGGGCCCAGCAGCTCACCGAGGACGGCGACACTTTTCTCCACTTG
P R E P P A R P H A W A Q Q L T E D G D T F L H L

GCGATCATTCACGAGGAAAAGGCCCTGAGCCTGGAGGTGATCCGGCAGGCCGCTGGGGACGCCGCCTTCCTGAACT
A I I H E E K A L S L E V I R Q A A G D A A F L N F

Ank. I

TCCAGAACAACCTCAGCCAGACTCCGCTCCACCTGGCGGTGATCACGGACCAGGCCGAAATCGCCGAGCACCTGCT
Q N N L S Q T P L H L A V I T D Q A E I A E H L L

Ank. II

GAAGGCTGGCTGCGACCTGGATGTCAGGGACTTCCGTGGGAACACCCCGCTCCACATCGCCTGCCAGCAGGGCTCG
K A G C D L D V R D F R G N T P L H I A C Q Q G S

Ank. III

CTCCGCAGCGTCAGTGTCCTCACGCAGCACTGCCAGCCCCACCACCTCCTCGCCGTCCTGCAGGCCACCAACTACA
L R S V S V L T Q H C Q P H H L L A V L Q A T N Y N

ACGGCCATACATGTCTCCATTTGGCATCTATTCAAGGATACCTGGCTGTTGTCGAATACCTGCTGTCCTTAGGAGC
G H T C L H L A S I Q G Y L A V V E Y L L S L G A

Ank. IV

AGATGTAAATGCTCAGGAGCCATGCAATGGGAGAACAGCACTACACTTGGCCGTAGACCTTCAGAACTCAGACCTG
D V N A Q E P C N G R T A L H L A V D L Q N S D L

Ank. V

Figure 43 (continued)

GTGTCACTTCTGGTGAAACACGGGCCAGATGTGAACAAAGTGACCTACCAGGGCTACTCCCCATACCAGCTTACAT
V S L L V K H G P D V N K V T Y Q G Y S P Y Q L T W

GGGCAGAGACAACGCCAGCATACAGGAGCAGCTGAAGCTGCTGACCACAGCTGACCTGCAGATACTGCCCGAAAGT
A E T T P A Y R S S 354

GAGGATGAGGAGAGCAGTGAATCAGAGCCAGAGTTCACAGAGGATGAACTTATGTATGATGACTGCTGTATTGGAG
GAAGACAGCTGACATTTTAAAGCAGAGGTTTCTGTGAGAAGTGACTGTGTACATATGTATAGGAAAAAAAGCCTGA
CTTTCTTCATTTAAAAAGAAAGTCTATACTCGAAGGAGAAAAAAGTACTGAGATACTACACTGCCCAGCCAGGAGC
ACATCATGCTAACAGGTTCCATGCTCTGACCTGTACTTAAGTAACGGGATGGGATGTGTAACATCGTTAAGAGATC
AGTGAACATGCACACCATCTGATAAAGAGCCACGTTATCTAATTTCTCTGCCACATGAGGATAACGGACTGCACGT
CCAATGTGCTGTTGTCAGAAATGCGTTTGAGAGCTGCCTTGTGACACTAAGTGCTGTGAGGAGTGCTCATCCCCCT
CGGTGGCAAGACAGGCTTGCACAAACGTCCCATCTGCTTGAAGACTGTGAGGTTGGCATTAGGTTGAGGCACTGCT
GTGCCCTGCTCCCTGACCCTGGCTGCTCAGGGTTGAGGAGTCCGACCATGGGAGAGGTGACCTGGCTGCTGGGAGG
AAGGTAGCAATGATGTTAACTGTGGGCATTTGGAAACTGTGTGTTTCACACCATGTGTGTCATAATTGCTACACTT
TTTAGCAACTGTATAGAATGTAAATACTGTACATCTTTGTTTATAATTATTTTGGTACCTGTGAGATATGTATTTA
TTAAAAAAGGCAGATTTCTGTAAAAAA